



Mike Gentile, Site Acquisition c/o New Cingular Wireless, PCS LLC (AT&T) Centerline Communications, LLC 95 Ryan Drive, Suite 1 Raynham, MA 02767 Mobile: (508) 844-9813

mgentile@clinellc.com

March 6, 2018

Melanie A. Bachman **Acting Executive Director Connecticut Siting Council** 10 Franklin Square New Britain, CT 06051

Notice of Exempt Modification // Site Number: CT2580 RE: 199 Town Farm Road, Farmington, CT 06032 (Site Name: FARMINGTON) N 41.757775 // W -72.82993055

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains nine (9) antennas at the 110foot level of the existing 110-foot Monopine tower at 199 Town Farm Road, Farmington, CT 06032. The tower is owned by American Tower Corporation. The property is also owned by the American Tower Corporation. AT&T now intends to replace three (3) of the existing panels with three (3) new antennas for its LTE upgrade. These antennas would be installed at the 110-foot level of the tower. AT&T also intends to install six (6) remove radio units (RRU) as well as one (1) DC6 Squid, one (1) fiber cable and two (2) DC cables at the 110-foot level of the tower.

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The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2012.





Information on the Property Records for the Municipality of Farmington was last updated on 3/5/2018.

Property Summary Information

Parcel Data And Values Building Outbuildings Sales Google Map

Parcel Information

Location:	199 TOWN FARM RD	Property Use:	Residential	Primary Use:	Residential
Unique ID:	19200199	Map Block Lot:	0017 27	Acres:	9.94
490 Acres:	0.00	Zone:	R40	Volume / Page:	0690/0666
Developers Map / Lot:		Census:	4602-01		

Value Information

	Appraised Value	Assessed Value
Land	224,878	157,420
Buildings	126,086	88,260

	Appraised Value	Assessed Value
Detached Outbuildings	230,120	161,080
Total	581,084	406,760

Owner's Information

Owner's Data

FARMINGTON TOWN OF C/O RODGER PHILLIPS 199 TOWN FARM RD FARMINGTON, CT 06032

Back To Search (JavaScript:window.history.back(1);)

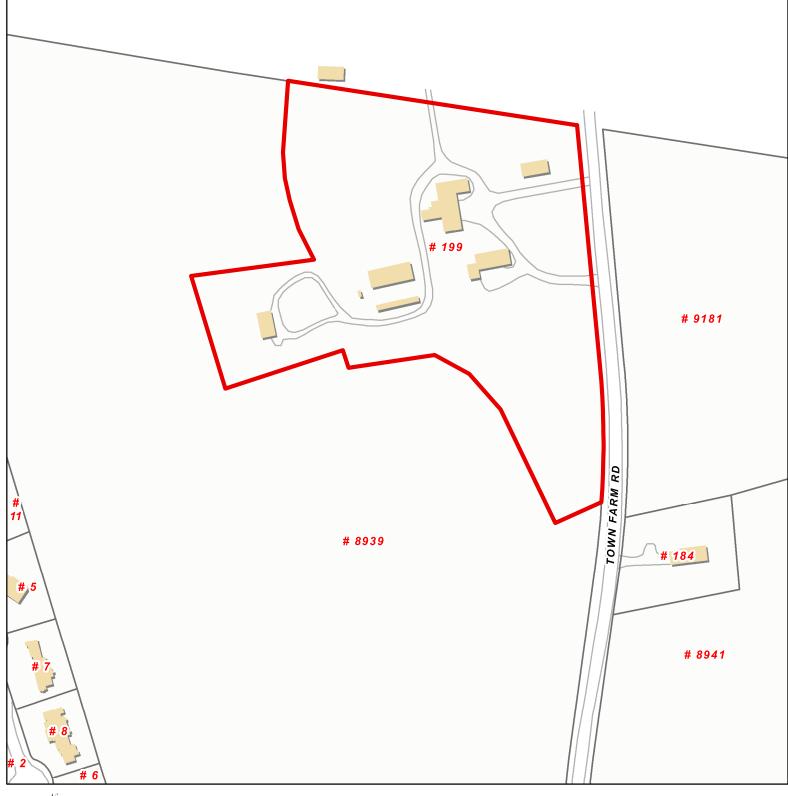
Print View (PrintPage.aspx?towncode=052&uniqueid=19200199)

Information Published With Permission From The Assessor

Town of Farmington, Connecticut - Assessment Parcel Map

UNIQUE ID: 19200199 Address: 199 TOWN FARM RD









Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT2580 FA#: 10141396

Farmington CT Town Farm Road 199 Town Farm Road Farmington, CT 06032

February 26, 2018

Centerline Communications Project Number: 950012-025

Site Complian	ce Summary
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	13.87 %



February 26, 2018

AT&T Mobility – New England Attn: John Benedetto, RF Manager 550 Cochituate Road Suite 550 – 13&14 Framingham, MA 06040

Emissions Analysis for Site: CT2580 – Farmington CT Town Farm Road

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **199 Town Farm Road, Farmington, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μ W/cm2). The number of μ W/cm² calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) - (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

<u>General population/uncontrolled exposure</u> limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter (μ W/cm²). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 μ W/cm² and 567 μ W/cm² respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 μ W/cm². Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **199 Town Farm Road, Farmington, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
UMTS	1900 MHz (PCS)	2	30
LTE	700 MHz	2	30
LTE	1900 MHz (PCS)	4	60
LTE	2300 MHz (WCS)	4	30

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

			Antenna
	Antenna		Centerline
Sector	Number	Antenna Make / Model	(ft)
A	1	Commscope SBNH-1D6565C	100
A	2	Commscope SBNH-1D6565C	100
A	3	CCI TPA-65R-LCUUUU-H8	100
В	1	Commscope SBNH-1D6565C	100
В	2	Commscope SBNH-1D6565C	100
В	3	CCI TPA-65R-LCUUUU-H8	100
C	1	Commscope SBNH-1D6565C	100
С	2	Commscope SBNH-1D6565C	100
C	3	Quintel QS66512-2	100

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.



RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

			A .	CI 1	Total TX		
Antenna ID	Antenna Make / Model	E D l-	Antenna	Channel	Power	EDD (W)	MDE 0/
		Frequency Bands	Gain (dBd)	Count	(W)	ERP (W)	MPE %
Antenna	Commscope	850 MHz /	14.45 /	4	120	2.070.22	0.14
A1	SBNH-1D6565C	1900 MHz (PCS)	15.85	4	120	3,979.22	2.14
Antenna	Commscope	- 00 1 577				4.000.44	
A2	SBNH-1D6565C	700 MHz	13.65	2	60	1,390.44	1.21
Antenna	CCI	1900 MHz (PCS) /	13.75 /				
A3	TPA-65R-LCUUUU-H8	2300 MHz (WCS)	14.45	8	360	9,034.64	3.68
				Sec	ctor A Comp	osite MPE%	7.03
Antenna	Commscope	850 MHz /	14.45 /				
B1	SBNH-1D6565C	1900 MHz (PCS)	15.85	4	120	3,979.22	2.14
Antenna	Commscope						
B2	SBNH-1D6565C	700 MHz	13.65	2	60	1,390.44	1.21
Antenna	CCI	1900 MHz (PCS) /	13.75 /				
В3	TPA-65R-LCUUUU-H8	2300 MHz (WCS)	14.45	8	360	9,034.64	3.68
				Sec	ctor B Comp	osite MPE%	7.03
Antenna	Commscope	850 MHz /	14.45 /				
C1	SBNH-1D6565C	1900 MHz (PCS)	15.85	4	120	3,979.22	2.14
Antenna	Commscope						
C2	SBNH-1D6565C	700 MHz	13.65	2	60	1,390.44	1.21
Antenna		1900 MHz (PCS) /	13.75 /				
C3	Quintel QS66512-2	2300 MHz (WCS)	14.45	8	360	9,489.77	3.86
				Sec	ctor C Comp	osite MPE%	7.21

Table 3: AT&T Emissions Levels



The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, the sector with the largest calculated MPE% is Sector C. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%						
Carrier	MPE%					
AT&T – Max Sector Value	7.21 %					
Verizon Wireless	6.66 %					
Site Total MPE %:	13.87 %					

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	7.03 %
AT&T Sector B Total:	7.03 %
AT&T Sector C Total:	7.21 %
Site Total:	13.87 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, the sector with the largest calculated MPE% is Sector C.

AT&T _ Frequency Band / Technology Max Power Values (Sector C)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (µW/cm²)	Frequency (MHz)	Allowable MPE (µW/cm²)	Calculated % MPE
AT&T 850 MHz UMTS	2	835.84	100	6.80	850 MHz	567	1.20%
AT&T 1900 MHz (PCS) UMTS	2	1,153.78	100	9.39	1900 MHz (PCS)	1000	0.94%
AT&T 700 MHz LTE	2	695.22	100	5.66	700 MHz	467	1.21%
AT&T 1900 MHz (PCS) LTE	4	1,455.97	100	23.70	1900 MHz (PCS)	1000	2.37%
AT&T 2300 MHz (WCS) LTE	4	916.48	100	14.92	2300 MHz (WCS)	1000	1.49%
						Total:	7.21%

Table 6: AT&T Maximum Sector MPE Power Values



Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	7.03 %
Sector B:	7.03 %
Sector C:	7.21 %
AT&T Maximum Total	7.21 %
(per sector):	7.21 %
Site Total:	13.87 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **13.87** % of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan

RF Engineering Director

Centerline Communications, LLC

95 Ryan Drive, Suite 1 Raynham, MA 02767



Structural Analysis Report

Structure : 111 ft Monopole

ATC Site Name : Farmington North 2 CT, CT

ATC Site Number : 411258

Engineering Number : OAA718005_C3_01

Proposed Carrier : AT&T Mobility

Carrier Site Name : Farmington

Carrier Site Number : CT2580

Site Location : 199 Town Farm Road

Farmington, CT 06032-1554

41.757800,-72.829900

County : Hartford

Date : December 5, 2017

Max Usage : 64%

Result : Pass

Prepared By: Parvin NikpoorParizi

Structural Engineer I

Reviewed By:

COA: PEC.0001553



Table of Contents

Introduction	1
Supporting Documents	1
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Equipment to be Removed	. 2
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Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 111 ft monopole to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	EEI Project #16046 Rev. 3, dated February 8, 2011
Foundation Drawing	EEI Project #16046 Rev. 2, dated December 14, 2010
Geotechnical Report	Dr. Clarence Welti Project Name Verizon Wireless Cell Tower, dated July 24, 2009

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	97 mph (3-Second Gust, V _{ASD}) / 125 mph (3-Second Gust, V _{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	
Exposure Category:	С
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$Ss = 0.18, S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

Elevation ¹ (ft)		Ot /	Antonna	Mount Tune	Linos	Carrior	
Mount	RAD	Qty	Antenna	Mount Type	Lines	Carrier	
	111.0	6	Antel LPA-80063/4CF				
	111.0	6	Commscope SBNHH-1D65B				
109.0		3	Samsung 700/850MHz Dual Band RRH	T-Arms	(12) 1 5/8" Coax (2) 1 1/4" Hybriflex	Verizon	
103.0	109.0	3	Samsung PCS/AWS Dual Band RRH	I-AIIIIS			
	109.0	2	Raycap RC2DC-3315-PF-48				
		1	VZW Unused Reserve: 18,229 sq in				
		18	RCU				
		1	Raycap DC6-48-60-18-8F(32.8 lbs)		(18) 1 5/8" Coax		
100.0	100.0	9	CCI DTMABP7819VG12A (w/ Bracket)	T-Arms	(2) 0.78" 8 AWG 6	AT&T Mobility	
		3	Ericsson RRUS-11 (50 lbs.)		(1) 0.39" Fiber Trunk		
		6	Andrew SBNH-1D6565C (60.8 lbs)				

Equipment to be Removed

Elevation1 (ft)		Qtv Antenna		Mount Tune	Lines	Carrior	
Mount	RAD	Qty	Antenna	Mount Type	Lines	Carrier	
100.0	100.0 100.0	100.0 Andrew SBNH-1D69	Andrew SBNH-1D6565C			AT&T Mobility	
100.0	100.0	3	Ericsson RRUS-11	-	-	AT&T MODILITY	

Proposed Equipment

Elevation	Elevation ¹ (ft)		Antenna	Mount Typo	Lines	Carrier					
Mount	RAD	Qty	Antenna	Mount Type	Lines	Carrier					
		1	Raycap DC6-48-60-18-8F ("Squid")		(2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk	AT&T Mobility					
		3	Ericsson RRUS 32 (50.8 lbs)	T-Arms							
100.0	100.0 3 1 2	3	Ericsson RRUS 32 B2								
							1	Quintel QS66512-2		(1) 2" conduit	
		2	CCI TPA-65R-LCUUUU-H8								

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	64%	Pass
Shaft	56%	Pass
Base Plate	38%	Pass

Foundations

Reaction Component	Original Design Reactions Reactions*		Analysis Reactions	% of Design	
Moment (Kips-Ft)	6,395.5	8,633.9	4,369.5	51%	
Shear (Kips)	68.9	93.0	50.8	55%	

^{*} The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)	
	Raycap DC6-48-60-18-8F ("Squid")				
	Ericsson RRUS 32 (50.8 lbs)				
100.0	Ericsson RRUS 32 B2	AT&T Mobility	0.643	0.682	
	Quintel QS66512-2				
	CCI TPA-65R-LCUUUU-H8				

^{*}Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

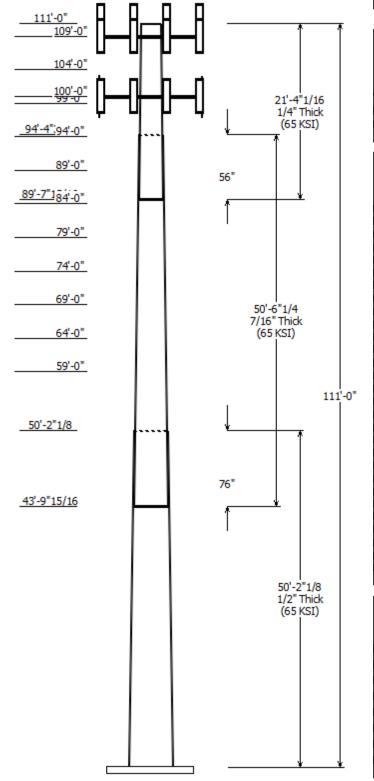
- -- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

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Job Information

Pole: 411258

Code: ANSI/TIA-222-G

Description:

Client: AT&T MOBILITY Struct Class: II

Location: Farmington North 2 CT, CT

 Shape : 18 Sides
 Exposure : C

 Height : 111.00 (ft)
 Topo : 1

Base Elev (ft): 0.00

Taper: 0.300225(in/ft)

Sections Properties									
					Taper (in/ft)	Steel Grade (ksi)			
1	50.175	43.93	59.00	0.500		0.000	0.30020	0 65	
2	50.518	31.55	46.71	0.438	Slip Joint	76.156	0.30020	0 65	
3	21.341	27.05	33.45	0.250	Slip Joint	56.250	0.30020	0 65	

Discrete Appurtenance				
Attach	Force			
Elev (ft)	Elev (ft)	Qty	Description	
109.000	109.000	3	Samsung 700/850MHz Dual	
109.000	109.000	3	Samsung PCS/AWS Dual Band	
109.000	111.000	6	Commscope SBNHH-1D65B	
109.000	109.000	2	Raycap RC2DC-3315-PF-48	
109.000	109.000	1	VZW Unused Reserve: 18,229	
109.000	109.000	3	Flat T-Arm	
109.000	111.000	6	Antel LPA-80063/4CF	
109.000	109.000	1	Pine Branch	
104.000	104.000	1	Pine Branch	
100.000	100.000	2	CCI TPA-65R-LCUUUU-H8	
100.000	100.000	1	Quintel QS66512-2	
100.000	100.000	3	Ericsson RRUS 32 B2	
100.000	100.000	3	Ericsson RRUS 32 (50.8 lbs)	
100.000	100.000	1	Raycap DC6-48-60-18-8F(32.8 lb	
100.000	100.000	3	Flat T-Arm	
100.000	100.000	6	Andrew SBNH-1D6565C (60.8	
100.000	100.000	3	Ericsson RRUS-11 (50 lbs.)	
100.000	100.000	9	CCI DTMABP7819VG12A (w/	
100.000	100.000	1	Raycap DC6-48-60-18-8F	
100.000	100.000	18	RCU	
99.000	99.000	1	Pine Branch	
94.000	94.000	1	Pine Branch	
89.000	89.000	1	Pine Branch	
84.000	84.000	1	Pine Branch	
79.000	79.000	1	Pine Branch	
74.000	74.000	1	Pine Branch	
69.000	69.000	1	Pine Branch	
64.000	64.000	1	Pine Branch	
59.000	59.000	1	Pine Branch	

	Linear Appurtenance						
Elev	(ft)		Exposed				
From	То	Description	To Wind				
3.000	100.0	0.39" Fiber Trunk	No				
3.000	100.0	0.39" Fiber Trunk	No				
3.000	100.0	0.78" (19.7mm) 8	No				
3.000	100.0	0.78" (19.7mm) 8	No				
3.000	100.0	1 5/8" Coax	No				
3.000	100.0	2" conduit	No				
3.000	109.0	1 1/4" Hybriflex	No				
3.000	109.0	1 5/8" Coax	No				

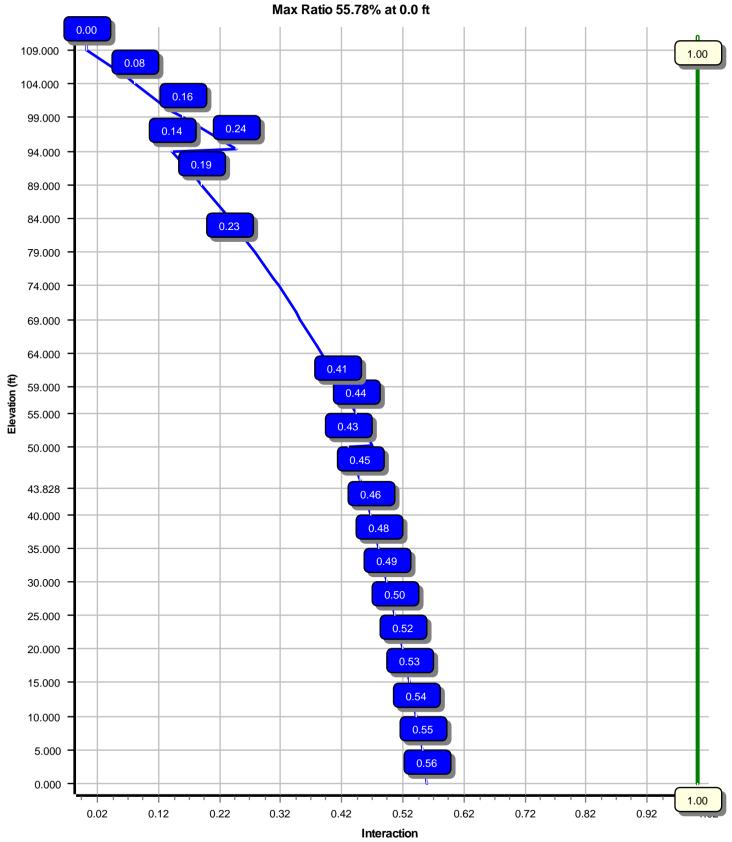
111'-0" 109'-0" 104'-0" 100'-0" 99'-0" 89'-0" 89'-7"184'-0" 79'-0" 74'-0"	H	H	56"	1/	4-4"1/16 4" Thick 55 KSI)	
69'-0" 64'-0" 59'-0"			ı	50'-6"1 7/16" Th (65 KS	nick I)	111'-0"
			76"	•	*	
				50 1/ (6)'-2"1/8 2"Thick 55 KSI)	
						,

Load Cases								
1.2D + 1.6W	97 mph with No Ice							
0.9D + 1.6W	97 mph with No Ice (Reduced DL)							
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice							
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method							
(1.2 + 0.2\$ds) * DL + E	Seismic Equivalent Modal Analysis Method							
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral							
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal							
1.0D + 1.0W	Serviceability 60 mph							

Reactions									
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)						
1.2D + 1.6W	4369.53	50.84	47.95						
0.9D + 1.6W	4353.36	50.82	35.94						
1.2D + 1.0Di + 1.0Wi	1325.00	15.40	83.60						
(1.2 + 0.2Sds) * DL + E ELFM	257.81	3.10	47.55						
(1.2 + 0.2Sds) * DL + E EMAM	284.78	3.15	47.55						
(0.9 - 0.2Sds) * DL + E ELFM	256.70	3.10	33.07						
(0.9 - 0.2Sds) * DL + E EMAM	283.46	3.15	33.07						
1.0D + 1.0W	1042.62	12.15	40.01						

Dish Deflections									
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)						
	0.00	0.000	0.000						

Load Case : 1.2D + 1.6W



Site Number: 411258 Code: ANSI/TIA-222-G © 2007 - 2017 by ATC IP LLC. All rights reserved.

Site Name: Engineering Number: OAA718005_C3_01 Farmington North 2 CT, CT 12/5/2017 1:14:17 PM

AT&T MOBILITY Customer:

Analysis Parameters

HARTFORD County, CT Location: 111 Height (ft):

Code: ANSI/TIA-222-G 59.00 Base Diameter (in): 18 Sides Shape: Top Diameter (in): 27.05

Pole Type: **Taper** Taper (in/ft): 0.300

Pole Manfacturer: Rotation (deg): 0.00

Ice & Wind Parameters

Structure Class: Ш **Design Wind Speed Without Ice:** 97 mph

Exposure Category: С **Design Wind Speed With Ice:** 50 mph **Topographic Category:** 1 **Operational Wind Speed:** 60 mph

Crest Height: 0.0 ft Design Ice Thickness: 1.00 in

Seismic Parameters

Analysis Method: Equivalent Modal Analysis & Equivalent Lateral Force Methods

Site Class: D - Stiff Soil

Period Based on Rayleigh Method (sec): 1.14

Cs: 6 0.060 T_L (sec): p: 1.3

C s Max: S_s: 0.181 S₁: 0.064 0.060

F_a: 1.600 2.400 C s Min: 0.030 F_v:

0.193 0.102 Sds: S_{d1}:

Load Cases

1.2D + 1.6W 97 mph with No Ice

0.9D + 1.6W97 mph with No Ice (Reduced DL) 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice

(1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

(1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

(0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

(0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

1.0D + 1.0WServiceability 60 mph Site Number: 411258 Code: ANSI/TIA-222-G © 2007 - 2017 by ATC IP LLC. All rights reserved.

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:17 PM

Customer: AT&T MOBILITY

Sha	Shaft Section Properties Slip								<u> —</u> Во	ttom -					_ т	ор -			
Sect Info	Length (ft)			Joint Type	-	Weight (lb)	Dia (in)	Elev (ft)	Area (in ²)	lx (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in²)	lx (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	50.174	0.5000	65		0.00	13,809	59.00	0.00	92.84	40140.4	19.04	118.00	43.93	50.17	68.93	16431.4	13.73	87.87	0.300225
2-18	50.518	0.4375	5 65	Slip	76.16	9,237	46.71	43.83	64.26	17389.2	17.07	106.78	31.55	94.35	43.20	5283.5	10.95	72.11	0.300225
3-18	21.341	0.2500	65	Slip	56.25	1,729	33.45	89.66	26.35	3671.0	21.83	133.83	27.05	111.00	21.27	1929.7	17.32	108.20	0.300225
			Sł	naft We	eiaht	24.775													

Discrete Appurtenance Properties

Attach Elev			Weight	— No lo EPAa	Orientation		Ice EPAa	Orientation	Distance From Face	Vert Ecc
(ft)	Description	Qty	(lb)	(sf)	Factor	(lb)	(sf)	Factor	(ft)	(ft)
109.00	Antel LPA-80063/4CF	6	20.00	6.140	0.76	298.22	7.508	0.76	0.000	2.000
109.00	Commscope SBNHH-1D65B	6	50.70	8.170	0.69	327.61	9.887	0.69	0.000	2.000
109.00	Flat T-Arm	3	250.00	12.900	0.67	519.96	23.463	0.67	0.000	0.000
109.00	Pine Branch	1	600.00	45.000	1.00	1,139.92	85.494	1.00	0.000	0.000
109.00	Raycap RC2DC-3315-PF-48	2	32.00	3.780	0.67	204.20	4.858		0.000	0.000
109.00	Samsung 700/850MHz Dual	3	70.30	1.880	0.50	166.49	2.630		0.000	0.000
109.00	Samsung PCS/AWS Dual	3	84.40	1.880	0.50	190.14	2.630		0.000	0.000
109.00	VZW Unused Reserve:	1	1547.70		1.00	2,940.42			0.000	0.000
104.00	Pine Branch	1		45.000	1.00	1,137.34			0.000	0.000
100.00	Andrew SBNH-1D6565C (60.8			11.450	0.70	415.67			0.000	0.000
100.00	CCI DTMABP7819VG12A (w/	9	19.20		0.50	80.98	2.028		0.000	0.000
100.00	CCI TPA-65R-LCUUUU-H8	2	81.60	13.300	0.69	498.98	15.443		0.000	0.000
100.00	Ericsson RRUS 32 (50.8 lbs)	3	50.80	2.690	0.67	169.59	3.639		0.000	0.000
100.00	Ericsson RRUS 32 B2	3	53.00	2.740	0.67	173.43	3.698		0.000	0.000
100.00	Ericsson RRUS-11 (50 lbs.)	3	50.00	2.570	0.67	161.40	3.425		0.000	0.000
100.00	Flat T-Arm	3	250.00		0.67	518.00			0.000	0.000
100.00	Quintel QS66512-2	1	111.00	8.130	0.74	416.21	9.823		0.000	0.000
100.00	Raycap DC6-48-60-18-8F	1	31.80	1.280	1.00	158.38	2.140		0.000	0.000
100.00	Raycap DC6-48-60-18-	1	32.80	1.280	1.00	159.38	2.140		0.000	0.000
100.00	RCU	18	1.00	0.160	0.50	16.86	0.447		0.000	0.000
99.00	Pine Branch	1	600.00	45.000	1.00	1,134.65	85.099		0.000	0.000
94.00	Pine Branch	1	600.00	45.000	1.00	1,131.82			0.000	0.000
89.00	Pine Branch	1	600.00	45.000	1.00	1,128.86			0.000	0.000
84.00	Pine Branch	1		45.000	1.00	1,125.74			0.000	0.000
79.00	Pine Branch	1	600.00		1.00	1,122.44			0.000	0.000
74.00	Pine Branch	1	600.00	45.000	1.00	1,118.95	83.921	1.00	0.000	0.000
69.00	Pine Branch	1		45.000	1.00	1,115.23			0.000	0.000
64.00	Pine Branch	1	600.00		1.00	1,111.24			0.000	0.000
59.00	Pine Branch	1	600.00	45.000	1.00	1,106.96	83.022	1.00	0.000	0.000
	Totals	85	11955.80		30,43	32.13		Numbe	r of Loadings	: 29

Linear Appurtenance Properties

F	Elev From (ft)	Elev To (ft)	Qty Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
	3.00	109.00	2 1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	N	Verizon
	3.00	109.00	12 1 5/8" Coax	1.98	0.82	Ν	0.00	N	Verizon
	3.00	100.00	1 0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
	3.00	100.00	1 0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
	3.00	100.00	2 0.78" (19.7mm) 8	0.78	0.59	N	0.00	N	AT&T Mobility
	3.00	100.00	2 0.78" (19.7mm) 8	0.78	0.59	N	0.00	N	AT&T Mobility
	3.00	100.00	18 1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
	3.00	100.00	1 2" conduit	2.38	3.65	N	0.00	N	AT&T Mobility

Site Number: 411258 Code: ANSI/TIA-222-G © 2007 - 2017 by ATC IP LLC. All rights reserved.

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:17 PM

Customer: AT&T MOBILITY

Segment Properties	(Max Len : 5.	ft)				
Seg Top	Flat					
Elev	Thick Dia	Area Ix	W/t	D/t F'y S	Z Weight	
(ft) Description	(in) (in)	(in²) (in⁴)	Ratio	Ratio (ksi) (in ³)	(in³) (lb)	
0.00	0.5000 59.000	92.836 40,140.4	19.04	118.00 79.0 1340.	0.0 0.0	
5.00	0.5000 57.499	90.454 37,129.0	18.51	115.00 79.6 1271.	0.0 1,559.2	
10.00	0.5000 55.998	88.072 34,272.1	17.98	112.00 80.2 1205.	0.0 1,518.7	
15.00	0.5000 54.497	85.690 31,565.6	17.46	108.99 80.9 1140.	0.0 1,478.2	
20.00	0.5000 52.995	83.307 29,005.5	16.93	105.99 81.5 1078.	0.0 1,437.6	
25.00	0.5000 51.494	80.925 26,587.7	16.40	102.99 82.1 1017.	0.0 1,397.1	
30.00	0.5000 49.993	78.543 24,308.2		99.99 82.6 957.7	0.0 1,356.6	
35.00	0.5000 48.492	76.161 22,162.8	15.34	96.98 82.6 900.2	0.0 1,316.1	
40.00	0.5000 46.991	73.779 20,147.5	14.81	93.98 82.6 844.5	0.0 1,275.5	
43.83 Bot - Section 2	0.5000 45.842	71.955 18,689.9	14.40	91.68 82.6 803.0	0.0 949.2	
45.00	0.5000 45.490	71.396 18,258.2		90.98 82.6 790.5	0.0 541.1	
50.00	0.5000 43.989	69.014 16,490.9	13.75	87.98 82.6 738.4	0.0 2,261.8	
50.17 Top - Section 1	0.4375 44.811	61.616 15,328.7		102.43 82.2 673.7	0.0 77.6	
55.00	0.4375 43.363	59.605 13,875.8		99.11 82.6 630.3	0.0 995.2	
59.00	0.4375 42.162	57.937 12,743.4		96.37 82.6 595.3	0.0 799.9	
60.00 64.00	0.4375 41.861 0.4375 40.661	57.520 12,470.3	15.11 14.62	95.68 82.6 586.7	0.0 196.4 0.0 771.6	
65.00	0.4375 40.360	55.853 11,416.9 55.436 11,163.2		92.94 82.6 553.0 92.25 82.6 544.8	0.0 771.0	
69.00	0.4375 39.159	53.768 10,185.8	14.02	89.51 82.6 512.3	0.0 743.2	
70.00	0.4375 38.859	53.351 9,950.7	13.90	88.82 82.6 504.4	0.0 182.3	
74.00	0.4375 37.658	51.684 9,046.5	13.41	86.08 82.6 473.2	0.0 714.8	
75.00	0.4375 37.358	51.267 8,829.4		85.39 82.6 465.5	0.0 175.2	
79.00	0.4375 36.157	49.599 7,995.5	12.81	82.65 82.6 435.5	0.0 686.5	
80.00	0.4375 35.857	49.183 7,795.6	12.69	81.96 82.6 428.2	0.0 168.1	
84.00	0.4375 34.656	47.515 7,029.2		79.21 82.6 399.5	0.0 658.1	
85.00	0.4375 34.356	47.098 6,845.8	12.08	78.53 82.6 392.5	0.0 161.0	
89.00	0.4375 33.155	45.431 6,144.1	11.60	75.78 82.6 365.0	0.0 629.7	
89.66 Bot - Section 3	0.4375 32.957	45.156 6,033.4	11.52	75.33 82.6 360.6	0.0 101.5	
90.00	0.4375 32.855	45.014 5,976.5	11.48	75.10 82.6 358.3	0.0 82.9	
94.00	0.4375 31.654	43.346 5,336.6	10.99	72.35 82.6 332.1	0.0 952.4	
94.35 Top - Section 2	0.2500 32.050	25.232 3,223.7	20.84	128.20 76.9 198.1	0.0 80.8	
95.00	0.2500 31.854	25.077 3,164.4		127.41 77.0 195.7	0.0 55.9	
99.00	0.2500 30.653	24.124 2,817.2		122.61 78.0 181.0	0.0 334.8	
100.0	0.2500 30.352	23.885 2,734.6		121.41 78.3 177.5	0.0 81.7	
104.0	0.2500 29.152	22.933 2,420.2		116.61 79.3 163.5	0.0 318.6	
105.0	0.2500 28.851	22.694 2,345.5	18.59	115.41 79.5 160.1	0.0 77.6	
109.0	0.2500 27.650	21.741 2,062.3		110.60 80.5 146.9	0.0 302.4	
110.0 111.0	0.2500 27.350 0.2500 27.050	21.503 1,995.3 21.265 1,929.7	17.53 17.32	109.40 80.8 143.7 108.20 81.0 140.5	0.0 73.6 0.0 72.8	
111.0	0.2300 27.030	21.200 1,929.7	17.32	100.20 01.0 140.3		
					24,775.0	

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:17 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W 97 mph with No Ice 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00

Dead Load Factor :1.20 Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft	Forces		Discrete	e Forces		Linear F	orces		Sum o	f Forces	
Seg			Dead		Torsion	Moment	Dead	•	Dead		Dead	Torsion	Moment
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		274.2	0.0					0.0	0.0	274.2	0.0	0.0	0.0
5.00		541.3	1,871.1					0.0	78.6	541.3	1,949.6	0.0	0.0
10.00		527.2	1,822.4					0.0	196.4	527.2	2,018.8	0.0	0.0
15.00		521.1	1,773.8					0.0	196.4	521.1	1,970.2	0.0	0.0
20.00		528.5	1,725.2					0.0	196.4	528.5	1,921.6	0.0	0.0
25.00		538.5	1,676.5					0.0	196.4	538.5	1,872.9	0.0	0.0
30.00		543.4	1,627.9					0.0	196.4	543.4	1,824.3	0.0	0.0
35.00		544.6	1,579.3					0.0	196.4	544.6	1,775.6	0.0	0.0
40.00		479.6	1,530.6					0.0	196.4	479.6	1,727.0	0.0	0.0
43.83	Bot - Section 2	271.9	1,139.0					0.0	150.4	271.9	1,289.4	0.0	0.0
45.00		337.8	649.3					0.0	46.0	337.8	695.3	0.0	0.0
50.00		282.8	2,714.1					0.0	196.4	282.8	2,910.5	0.0	0.0
50.17	Top - Section 1	270.0	93.1					0.0	6.9	270.0	99.9	0.0	0.0
55.00		473.5	1,194.3					0.0	189.5	473.5	1,383.8	0.0	0.0
59.00	Appertunance(s)	265.8	959.9	2,052.5	0.0	0.0	720.0	0.0	157.1	2,318.4	1,837.0	0.0	0.0
60.00		262.0	235.7	,				0.0	39.3	262.0	275.0	0.0	0.0
64.00	Appertunance(s)	261.0	925.9	2,088.0	0.0	0.0	720.0	0.0	157.1	2,349.0	1,803.0	0.0	0.0
65.00		256.7	227.2					0.0	39.3	256.7	266.5	0.0	0.0
69.00	Appertunance(s)	255.6	891.8	2,121.3	0.0	0.0	720.0	0.0	157.1	2,376.9	1,768.9	0.0	0.0
70.00		250.8	218.7	,				0.0	39.3	250.8	258.0	0.0	0.0
74.00	Appertunance(s)	249.6	857.8	2,152.8	0.0	0.0	720.0	0.0	157.1	2,402.4	1,734.9	0.0	0.0
75.00	,	244.5	210.2		-			0.0	39.3	244.5	249.5	0.0	0.0
79.00	Appertunance(s)	243.2	823.7	2,182.6	0.0	0.0	720.0	0.0	157.1	2,425.8	1,700.8	0.0	0.0
80.00	.,	237.7	201.7	,				0.0	39.3	237.7	241.0	0.0	0.0
84.00	Appertunance(s)	236.3	789.7	2,211.0	0.0	0.0	720.0	0.0	157.1	2,447.3	1,666.8	0.0	
85.00	,	230.5	193.2					0.0	39.3	230.5	232.4	0.0	0.0
89.00	Appertunance(s)	213.6	755.7	2,238.1	0.0	0.0	720.0	0.0	157.1	2,451.7	1,632.8	0.0	0.0
89.66	Bot - Section 3	45.4	121.9	,				0.0	25.9	45.4	147.7	0.0	0.0
90.00		196.1	99.5					0.0	13.4	196.1	112.8	0.0	0.0
94.00	Appertunance(s)	195.8	1,142.9	2,264.0	0.0	0.0	720.0	0.0	157.1	2,459.9	2,020.0	0.0	
94.35	Top - Section 2	44.3	96.9	_,	-			0.0	13.6	44.3	110.6	0.0	0.0
95.00		203.1	67.1					0.0	25.7	203.1	92.8	0.0	0.0
99.00	Appertunance(s)	216.8	401.8	2,288.8	0.0	0.0	720.0	0.0	157.1	2,505.7	1,278.9	0.0	0.0
100.00	Appertunance(s)	210.2	98.0	5,016.1			2,527.0	0.0	39.3	5,226.3	2,664.3	0.0	0.0
104.00	Appertunance(s)	208.5	382.3	,			720.0	0.0	56.8	2,521.3	1,159.2	0.0	
105.00	ppo: ta:/aiioo(o)	201.7	93.2	_,5 /	5.0	. 0.0	. 20.0	0.0	14.2	201.7	107.4	0.0	0.0
103.00	Appertunance(s)	200.0		12,942.7	0.0	5,153.8	4,620.0	0.0		13,142.7	5,039.7	0.0	0.0
110.00	[· [· - · · · · · · · · · · · · · · · ·	78.2	88.3	. 2,072.1	0.0	. 0,100.0	+,0≥0.0	0.0	0.0	78.2	88.3	0.0	0.0
111.00		38.9	87.3					0.0	0.0	38.9	87.3	0.0	0.0
111.00		30.9	01.3										
								To	tals:	51,051.4	48,014.5	0.00	0.00

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:18 PM

Customer: AT&T MOBILITY

<u>Load Case:</u> 1.2D + 1.6W 97 mph with No Ice 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00

Dead Load Factor :1.20 Wind Load Factor :1.60

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.95	-50.84	0.00	-4,369.53	0.00	4,369.53	6.600.84	3.300.42	15,856.1	7.939.85	0.00	0.00	0.558
5.00	-45.86	-50.42	0.00	-4,115.32	0.00	4,115.32			15,168.0		0.08	-0.15	0.549
10.00	-43.71	-50.00	0.00	-3,863.23	0.00	3,863.23			14,488.6		0.32	-0.30	0.540
15.00	-41.61	-49.58	0.00	-3,613.23	0.00	3,613.23	6,236.75	3,118.38	13,818.4	6,919.51	0.72	-0.46	0.529
20.00	-39.56	-49.14	0.00	-3,365.33	0.00	3,365.33	6,110.05	3,055.03	13,157.9	6,588.75	1.29	-0.62	0.518
25.00	-37.56	-48.69	0.00	-3,119.62	0.00	3,119.62	5,980.68	2,990.34	12,507.5	6,263.09	2.02	-0.77	0.505
30.00	-35.61	-48.22	0.00	-2,876.18	0.00	2,876.18	5,835.35	2,917.67	11,840.9	5,929.26	2.92	-0.94	0.491
35.00	-33.71	-47.74	0.00	-2,635.10	0.00	2,635.10	5,658.36	2,829.18	11,130.0	5,573.30	3.99	-1.10	0.479
40.00	-31.87	-47.30	0.00	-2,396.42	0.00	2,396.42	5,481.38	2,740.69	10,441.2	5,228.37	5.22	-1.26	0.464
43.83	-30.52	-47.04	0.00	-2,215.35	0.00	2,215.35			9,928.68		6.28	-1.38	0.452
45.00	-29.75	-46.74	0.00	-2,160.23	0.00	2,160.23	,	,	9,774.36	,	6.63	-1.42	0.447
50.00	-26.78	-46.42	0.00	-1,926.53	0.00	1,926.53			9,129.52		8.21	-1.58	0.427
50.17	-26.63	-46.18	0.00	-1,918.43	0.00	1,918.43	•	•	8,298.22	•	8.26	-1.59	0.468
55.00	-25.15	-45.73	0.00	-1,695.58	0.00	1,695.58	,	,	7,792.67	,	9.95	-1.74	0.441
59.00	-23.32	-43.39	0.00	-1,512.65	0.00	1,512.65			7,360.60		11.46	-1.87	0.416
60.00	-22.99	-43.15	0.00	-1,469.26	0.00	1,469.26			7,254.51		11.86	-1.90	0.410
64.00	-21.22	-40.77	0.00	-1,296.66	0.00	1,296.66			6,837.85		13.51	-2.03	0.384
65.00	-20.91	-40.53	0.00	-1,255.89	0.00	1,255.89	•	•	6,735.61	•	13.93	-2.06	0.378
69.00	-19.18	-38.12	0.00	-1,093.76	0.00	1,093.76	•	•	6,334.35	•	15.71	-2.18	0.350
70.00	-18.88	-37.88	0.00	-1,055.64	0.00	1,055.64	,	,	6,235.97	,	16.17	-2.21	0.343
74.00	-17.20	-35.43	0.00	-904.12	0.00	904.12			5,850.11		18.08	-2.32	0.313
75.00 79.00	-16.92 -15.29	-35.20 -32.72	0.00 0.00	-868.69 -727.91	0.00 0.00	868.69 727.91	•	•	5,755.58	•	18.57 20.58	-2.35 -2.45	0.306 0.274
80.00	-15.29 -15.02	-32.72 -32.49	0.00	-695.19	0.00	695.19			5,385.13 5,294.44		21.10	-2.45 -2.48	0.274
84.00	-13.44	-29.98	0.00	-565.24	0.00	565.24			4,939.39		23.21	-2. 4 0 -2.57	0.233
85.00	-13.44	-29.75	0.00	-535.26	0.00	535.26	,	,	4.852.56	,	23.76	-2.57 -2.59	0.233
89.00	-11.65	-27.24	0.00	-416.25	0.00	416.25	-,	,	4,512.92	,	25.96	-2.67	0.224
89.66	-11.50	-27.19	0.00	-398.31	0.00	398.31	•	•	4,458.15	•	26.33	-2.68	0.182
90.00	-11.38	-26.99	0.00	-389.03	0.00	389.03	,	•	4,429.93	,	26.52	-2.69	0.179
94.00	-9.46	-24.45	0.00	-281.06	0.00	281.06	,	,	4.105.69	,	28.81	-2.75	0.173
94.35	-9.35	-24.40	0.00	-272.60	0.00	272.60	1,746.03		2,281.47		29.01	-2.76	0.245
95.00	-9.25	-24.20	0.00	-256.65	0.00	256.65	1,738.93		2,258.06		29.39	-2.77	0.233
99.00	-8.08	-21.64	0.00	-159.86	0.00	159.86	1,694.48	847.24	2,116.07	1.059.61	31.74	-2.84	0.156
100.00	-5.67	-16.29	0.00	-138.22	0.00	138.22	1,683.10		2,080.94	,	32.34	-2.86	0.136
104.00	-4.63	-13.71	0.00	-73.07	0.00	73.07	1,636.52		1,941.96	972.42	34.76	-2.90	0.078
105.00	-4.53	-13.51	0.00	-59.36	0.00	59.36	1,624.61	812.30	1,907.63	955.23	35.36	-2.91	0.065
109.00	-0.17	-0.13	0.00	-0.17	0.00	0.17	1,575.88		1,772.05	887.34	37.81	-2.93	0.000
110.00	-0.09	-0.04	0.00	-0.04	0.00	0.04	1,563.44	781.72	1,738.62	870.60	38.42	-2.93	0.000
111.00	0.00	-0.04	0.00	0.00	0.00	0.00	1,550.88	775.44	1,705.38	853.95	39.04	-2.93	0.000

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:18 PM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

18 Iterations

Gust Response Factor :1.10
Dead Load Factor :0.90
Wind Load Factor :1.60

Wind Importance Factor 1.00

Applied Segment Forces Summary

		Shaft I	orces		Discrete	Forces		Linear F	orces		Sum of	Forces	
Seg			Dead		Torsion	Moment	Dead		Dead		Dead	Torsion	Moment
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		274.2	0.0					0.0	0.0	274.2	0.0	0.0	0.0
5.00		541.3	1,403.3					0.0	58.9	541.3	1,462.2	0.0	0.0
10.00		527.2	1,366.8					0.0	147.3	527.2	1,514.1	0.0	0.0
15.00		521.1	1,330.4					0.0	147.3	521.1	1,477.6	0.0	0.0
20.00		528.5	1,293.9					0.0	147.3	528.5	1,441.2	0.0	0.0
25.00		538.5	1,257.4					0.0	147.3	538.5	1,404.7	0.0	0.0
30.00		543.4	1,220.9					0.0	147.3	543.4	1,368.2	0.0	0.0
35.00		544.6	1,184.5					0.0	147.3	544.6	1,331.7	0.0	0.0
40.00		479.6	1,148.0					0.0	147.3	479.6	1,295.3	0.0	0.0
43.83	Bot - Section 2	271.9	854.3					0.0	112.8	271.9	967.0	0.0	0.0
45.00		337.8	487.0					0.0	34.5	337.8	521.5	0.0	0.0
50.00		282.8	2,035.6					0.0	147.3	282.8	2,182.9	0.0	0.0
50.17	Top - Section 1	270.0	69.8					0.0	5.1	270.0	74.9	0.0	0.0
55.00		473.5	895.7					0.0	142.1	473.5	1,037.9	0.0	0.0
59.00	Appertunance(s)	265.8	719.9	2,052.5	0.0	0.0	540.0	0.0	117.8	2,318.4	1,377.8	0.0	0.0
60.00		262.0	176.8					0.0	29.5	262.0	206.3	0.0	0.0
64.00	Appertunance(s)	261.0	694.4	2,088.0	0.0	0.0	540.0	0.0	117.8	2,349.0	1,352.2	0.0	0.0
65.00		256.7	170.4					0.0	29.5	256.7	199.9	0.0	0.0
69.00	Appertunance(s)	255.6	668.9	2,121.3	0.0	0.0	540.0	0.0	117.8	2,376.9	1,326.7	0.0	0.0
70.00		250.8	164.0					0.0	29.5	250.8	193.5	0.0	0.0
74.00	Appertunance(s)	249.6	643.3	2,152.8	0.0	0.0	540.0	0.0	117.8	2,402.4	1,301.2	0.0	0.0
75.00		244.5	157.6					0.0	29.5	244.5	187.1	0.0	0.0
79.00	Appertunance(s)	243.2	617.8	2,182.6	0.0	0.0	540.0	0.0	117.8	2,425.8	1,275.6	0.0	0.0
80.00		237.7	151.3					0.0	29.5	237.7	180.7	0.0	0.0
84.00	Appertunance(s)	236.3	592.3	2,211.0	0.0	0.0	540.0	0.0	117.8	2,447.3	1,250.1	0.0	0.0
85.00		230.5	144.9					0.0	29.5	230.5	174.3	0.0	0.0
89.00	Appertunance(s)	213.6	566.7	2,238.1	0.0	0.0	540.0	0.0	117.8	2,451.7	1,224.6	0.0	0.0
89.66	Bot - Section 3	45.4	91.4					0.0	19.4	45.4	110.8	0.0	0.0
90.00		196.1	74.6					0.0	10.0	196.1	84.6	0.0	0.0
94.00	Appertunance(s)	195.8	857.1	2,264.0	0.0	0.0	540.0	0.0	117.8	2,459.9	1,515.0	0.0	0.0
94.35	Top - Section 2	44.3	72.7					0.0	10.2	44.3	82.9	0.0	0.0
95.00		203.1	50.4					0.0	19.3	203.1	69.6	0.0	0.0
99.00	Appertunance(s)	216.8	301.4	2,288.8	0.0	0.0	540.0	0.0	117.8	2,505.7	959.2	0.0	0.0
100.00	Appertunance(s)	210.2	73.5	5,016.1	0.0	0.0	1,895.2	0.0	29.5	5,226.3	1,998.2	0.0	0.0
104.00	Appertunance(s)	208.5	286.8	2,312.7	0.0	0.0	540.0	0.0	42.6	2,521.3	869.4	0.0	0.0
105.00		201.7	69.9					0.0	10.7	201.7	80.5	0.0	0.0
109.00	Appertunance(s)	200.0	272.2	12,942.7	0.0	5,153.8	3,465.0	0.0	42.6	13,142.7	3,779.8	0.0	0.0
110.00		78.2	66.2					0.0	0.0	78.2	66.2	0.0	0.0
111.00		38.9	65.5					0.0	0.0	38.9	65.5	0.0	0.0
								To	tals:	51,051.4	36,010.9	0.00	0.00

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:20 PM

Customer: AT&T MOBILITY

<u>Load Case:</u> 0.9D + 1.6W 97 mph with No Ice (Reduced DL) 18 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Importance Factor 1.00

Wind Load Factor :0.90

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.94	-50.82	0.00	-4,353.36	0.00	4,353.36	6.600.84	3.300.42	15,856.1	7.939.85	0.00	0.00	0.554
5.00	-34.35	-50.37	0.00	-4.099.24	0.00	4,099.24			15,168.0		0.08	-0.15	0.545
10.00	-32.70	-49.93	0.00	-3,847.38	0.00	3,847.38			14,488.6		0.32	-0.30	0.536
15.00	-31.09	-49.48	0.00	-3,597.75	0.00	3,597.75	6,236.75	3,118.38	13,818.4	6,919.51	0.72	-0.46	0.525
20.00	-29.52	-49.02	0.00	-3,350.35	0.00	3,350.35	6,110.05	3,055.03	13,157.9	6,588.75	1.28	-0.61	0.514
25.00	-27.99	-48.54	0.00	-3,105.25	0.00	3,105.25	5,980.68	2,990.34	12,507.5	6,263.09	2.01	-0.77	0.501
30.00	-26.50	-48.05	0.00	-2,862.54	0.00	2,862.54	5,835.35	2,917.67	11,840.9	5,929.26	2.91	-0.93	0.488
35.00	-25.04	-47.56	0.00	-2,622.28	0.00	2,622.28	5,658.36	2,829.18	11,130.0	5,573.30	3.97	-1.09	0.475
40.00	-23.64	-47.11	0.00	-2,384.51	0.00	2,384.51	5,481.38	2,740.69	10,441.2	5,228.37	5.20	-1.25	0.461
43.83	-22.61	-46.85	0.00	-2,204.17	0.00	2,204.17			9,928.68		6.26	-1.38	0.448
45.00	-22.02	-46.53	0.00	-2,149.28	0.00	2,149.28	,	,	9,774.36	,	6.60	-1.42	0.444
50.00	-19.78	-46.22	0.00	-1,916.61	0.00	1,916.61			9,129.52		8.17	-1.57	0.423
50.17	-19.65	-45.98	0.00	-1,908.55	0.00	1,908.55	•	•	8,298.22	•	8.23	-1.58	0.464
55.00	-18.51	-45.52	0.00	-1,686.68	0.00	1,686.68	,	,	7,792.67	,	9.90	-1.73	0.437
59.00	-17.15	-43.18	0.00	-1,504.61	0.00	1,504.61			7,360.60		11.41	-1.86	0.413
60.00	-16.89	-42.94	0.00	-1,461.42	0.00	1,461.42			7,254.51		11.80	-1.89	0.407
64.00	-15.56	-40.57	0.00	-1,289.67	0.00	1,289.67			6,837.85		13.45	-2.02	0.381
65.00	-15.32	-40.32	0.00	-1,249.10	0.00	1,249.10	•	•	6,735.61	•	13.87	-2.05	0.374
69.00	-14.03	-37.92	0.00	-1,087.81	0.00	1,087.81	•	•	6,334.35	•	15.64	-2.17	0.347
70.00	-13.80	-37.68	0.00	-1,049.90	0.00	1,049.90	,	,	6,235.97	,	16.10	-2.20	0.340
74.00 75.00	-12.55	-35.24	0.00	-899.20	0.00 0.00	899.20			5,850.11		17.99	-2.31 -2.34	0.311
79.00 79.00	-12.34 -11.13	-35.00 -32.54	0.00 0.00	-863.96 -723.95	0.00	863.96 723.95	•	•	5,755.58 5,385.13	•	18.48 20.49	-2.34 -2.44	0.303 0.272
80.00	-11.13	-32.34	0.00	-723.93 -691.42	0.00	691.42			5,294.44		21.00	-2.44 -2.47	0.272
84.00	-9.75	-29.81	0.00	-562.21	0.00	562.21			4,939.39		23.11	-2.56	0.230
85.00	-9.75 -9.56	-29.58	0.00	-532.39	0.00	532.39	,	,	4.852.56	,	23.65	-2.58	0.230
89.00	-8.43	-27.08	0.00	-414.06	0.00	414.06	-,	,	4,512.92	,	25.84	-2.66	0.186
89.66	-8.32	-27.04	0.00	-396.22	0.00	396.22	•	•	4,458.15	•	26.21	-2.67	0.180
90.00	-8.23	-26.84	0.00	-386.99	0.00	386.99	,	•	4,429.93	,	26.40	-2.68	0.177
94.00	-6.81	-24.32	0.00	-279.63	0.00	279.63	,	,	4.105.69	,	28.67	-2.74	0.138
94.35	-6.73	-24.27	0.00	-271.21	0.00	271.21	1,746.03		2,281.47		28.87	-2.75	0.242
95.00	-6.65	-24.07	0.00	-255.35	0.00	255.35	1,738.93		2,258.06		29.25	-2.75	0.230
99.00	-5.80	-21.52	0.00	-159.07	0.00	159.07	1,694.48	847.24	2,116.07	1.059.61	31.59	-2.83	0.154
100.00	-4.05	-16.21	0.00	-137.55	0.00	137.55	1,683,10		2,080.94	,	32.19	-2.84	0.135
104.00	-3.31	-13.65	0.00	-72.73	0.00	72.73	1,636.52		1,941.96	972.42	34.59	-2.89	0.077
105.00	-3.23	-13.44	0.00	-59.08	0.00	59.08	1,624.61	812.30	1,907.63	955.23	35.20	-2.90	0.064
109.00	-0.13	-0.12	0.00	-0.17	0.00	0.17	1,575.88		1,772.05	887.34	37.63	-2.91	0.000
110.00	-0.06	-0.04	0.00	-0.04	0.00	0.04	1,563.44	781.72	1,738.62	870.60	38.24	-2.91	0.000
111.00	0.00	-0.04	0.00	0.00	0.00	0.00	1,550.88	775.44	1,705.38	853.95	38.85	-2.91	0.000

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:20 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 18 Iterations

Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft I	Forces		Discret	e Forces		Linear F	orces		Sum o	f Forces	
Seg			Dead		Torsion	Moment	Dead		Dead		Dead	Torsion	Moment
Elev		Wind FX	Load	Wind FX		MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		88.5	0.0					0.0	0.0	88.5	0.0	0.0	0.0
5.00		175.2	2,442.6					0.0	78.6	175.2	2,521.1	0.0	0.0
10.00		171.7	2,446.0					0.0	196.4	171.7	2,642.4	0.0	0.0
15.00		170.4	2,414.0					0.0	196.4	170.4	2,610.4	0.0	0.0
20.00		173.5	2,370.3					0.0	196.4	173.5	2,566.7	0.0	0.0
25.00		177.4	2,320.5					0.0	196.4	177.4	2,516.9	0.0	0.0
30.00		179.6	2,267.0					0.0	196.4	179.6	2,463.3	0.0	0.0
35.00		180.6	2,210.7					0.0	196.4	180.6	2,407.1	0.0	0.0
40.00		159.5	2,152.5					0.0	196.4	159.5	2,348.9	0.0	0.0
43.83	Bot - Section 2	90.6	1,609.4					0.0	150.4	90.6	1,759.7	0.0	0.0
45.00		112.8	795.8					0.0	46.0	112.8	841.8	0.0	0.0
50.00		94.5	3,323.8					0.0	196.4	94.5	3,520.2	0.0	0.0
50.17	Top - Section 1	90.5	114.4					0.0	6.9	90.5	121.3	0.0	0.0
55.00		159.0	1,770.0					0.0	189.5	159.0	1,959.5	0.0	0.0
59.00	Appertunance(s)	89.5	1,428.4	628.9	0.0	0.0	1,827.0	0.0	157.1	718.3	3,412.5	0.0	0.0
60.00		88.5	352.6					0.0	39.3	88.5	391.9	0.0	0.0
64.00	Appertunance(s)	88.2	1,382.5	642.2	0.0	0.0	1,831.2	0.0	157.1	730.4	3,370.9	0.0	0.0
65.00		87.0	341.0					0.0	39.3	87.0	380.3	0.0	0.0
69.00	Appertunance(s)	86.7	1,336.0	654.8	0.0	0.0	1,835.2	0.0	157.1	741.5	3,328.4	0.0	0.0
70.00		85.4	329.4					0.0	39.3	85.4	368.6	0.0	0.0
74.00	Appertunance(s)	85.1	1,289.1	666.7	0.0	0.0	1,838.9	0.0	157.1	751.8	3,285.1	0.0	0.0
75.00		83.7	317.6				•	0.0	39.3	83.7	356.9	0.0	0.0
79.00	Appertunance(s)	83.3	1,241.7	678.1	0.0	0.0	1,842.4	0.0	157.1	761.4	3,241.3	0.0	0.0
80.00		81.7	305.7					0.0	39.3	81.7	345.0	0.0	0.0
84.00	Appertunance(s)	81.3	1,194.0	688.9	0.0	0.0	1,845.7	0.0	157.1	770.2	3,196.8	0.0	0.0
85.00		79.7	293.7					0.0	39.3	79.7	333.0	0.0	0.0
89.00	Appertunance(s)	73.9	1,145.9	699.3	0.0	0.0	1,848.9	0.0	157.1	773.2	3,151.9	0.0	0.0
89.66	Bot - Section 3	15.8	186.0					0.0	25.9	15.8	211.8	0.0	0.0
90.00		68.1	133.0					0.0	13.4	68.1	146.4	0.0	0.0
94.00	Appertunance(s)	68.1	1,524.3	709.2	0.0	0.0	1,851.8	0.0	157.1	777.3	3,533.2	0.0	0.0
94.35	Top - Section 2	15.4	130.0					0.0	13.6	15.4	143.6	0.0	0.0
95.00		71.0	129.1					0.0	25.7	71.0	154.8	0.0	0.0
99.00	Appertunance(s)	75.9	768.6	718.8	0.0	0.0	1,854.6	0.0	157.1	794.6	2,780.4	0.0	0.0
100.00	Appertunance(s)	74.0	189.1	1,143.0	0.0	0.0	8,554.6	0.0	39.3	1,216.9	8,783.0	0.0	0.0
104.00	Appertunance(s)	73.5	734.3	728.0				0.0	56.8	801.5	2,648.5	0.0	
105.00	,	71.5	180.5					0.0	14.2	71.5	194.7	0.0	0.0
109.00	Appertunance(s)	71.0	699.7	3,736.2	0.0	1,040.6	10,474.2	0.0	56.8	-	11,230.8	0.0	0.0
110.00		27.9	171.9	•		•	•	0.0	0.0	27.9	171.9	0.0	0.0
111.00		13.9	170.1					0.0	0.0	13.9	170.1	0.0	0.0
									tals:		83,610.9		0.00

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:21 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 18 Iterations

Wind Load Factor :1.00

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total		
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn		Rotation	
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)		(ft-kips)	(kips)	(kips)		(ft-kips)		(deg)	Ratio
(11)	(Kipa)	(Kips)	(It-Kips)	(It-Kips)	(It-Kips)	(It-Kipa)	(Kipa)	(kipa)	(It-Kips)	(It-Kips)	(,,,	(ueg)	itatio
0.00	-83.60	-15.40	0.00	-1,325.00	0.00	1,325.00	6,600.84	3,300.42	15,856.1	7,939.85	0.00	0.00	0.180
5.00	-81.07	-15.29	0.00	-1,247.98	0.00	1,247.98	6,482.15	3,241.07	15,168.0	7,595.31	0.02	-0.05	0.177
10.00	-78.42	-15.18	0.00	-1,171.52	0.00	1,171.52	6,360.79				0.10	-0.09	0.174
15.00	-75.79	-15.07	0.00	-1,095.62	0.00	1,095.62	6,236.75				0.22	-0.14	0.171
20.00	-73.22	-14.95	0.00	-1,020.28	0.00	1,020.28	6,110.05	3,055.03	13,157.9	6,588.75	0.39	-0.19	0.167
25.00	-70.69	-14.82	0.00	-945.54	0.00	945.54	5,980.68				0.61	-0.23	0.163
30.00	-68.21	-14.69	0.00	-871.44	0.00	871.44	5,835.35	2,917.67	11,840.9	5,929.26	0.89	-0.28	0.159
35.00	-65.79	-14.55	0.00	-797.99	0.00	797.99	•	•	11,130.0	•	1.21	-0.33	0.155
40.00	-63.43	-14.43	0.00	-725.24	0.00	725.24	,	,	10,441.2	,	1.58	-0.38	0.150
43.83	-61.67	-14.35	0.00	-670.02	0.00	670.02			9,928.68		1.91	-0.42	0.146
45.00	-60.82	-14.26	0.00	-653.20	0.00	653.20	5,304.39				2.01	-0.43	0.145
50.00	-57.30	-14.16	0.00	-581.90	0.00	581.90			9,129.52		2.49	-0.48	0.138
50.17	-57.17	-14.10	0.00	-579.42	0.00	579.42	4,560.16	•	•	•	2.50	-0.48	0.152
55.00	-55.20	-13.96	0.00	-511.40	0.00	511.40	4,428.33				3.01	-0.53	0.144
59.00	-51.79	-13.23	0.00	-455.56	0.00	455.56	4,304.44	,	,	,	3.47	-0.57	0.136
60.00	-51.39	-13.16	0.00	-442.33	0.00	442.33	4,273.47				3.59	-0.58	0.134
64.00	-48.03	-12.42	0.00	-389.68	0.00	389.68	4,149.58				4.09	-0.61	0.125
65.00	-47.64	-12.34	0.00	-377.26	0.00	377.26	4,118.61				4.22	-0.62	0.123
69.00	-44.32	-11.58	0.00	-327.89	0.00	327.89	3,994.72				4.76	-0.66	0.115
70.00	-43.94	-11.51	0.00	-316.31	0.00	316.31	3,963.75	,	,	,	4.90	-0.67	0.112
74.00	-40.66	-10.73	0.00	-270.27	0.00	270.27			5,850.11		5.47	-0.70	0.103
75.00	-40.31	-10.66	0.00	-259.54	0.00	259.54	3,808.88	,	,	,	5.62	-0.71	0.101
79.00	-37.07	-9.87	0.00	-216.90	0.00	216.90	3,684.99				6.23	-0.74	0.091
80.00	-36.72	-9.79	0.00	-207.03	0.00	207.03	3,654.02	•	•	•	6.39	-0.75	0.088
84.00	-33.53	-8.99	0.00	-167.86	0.00	167.86	,	,	4,939.39	,	7.03	-0.78	0.077
85.00	-33.20	-8.92	0.00	-158.87	0.00	158.87	3,499.16	,	,	,	7.19	-0.78	0.075
89.00	-30.06	-8.11	0.00	-123.20	0.00	123.20	•	•	4,512.92	•	7.86	-0.81	0.063
89.66	-29.85	-8.09	0.00	-117.86	0.00	117.86	,	,	4,458.15	,	7.97	-0.81	0.062
90.00	-29.70	-8.02	0.00	-115.10	0.00	115.10	3,344.30				8.03	-0.81	0.061
94.00	-26.18	-7.20	0.00	-83.01	0.00	83.01	3,220.41				8.71	-0.83	0.049
94.35	-26.03	-7.18 7.12	0.00	-80.52	0.00	80.52			2,281.47	•	8.78	-0.83	0.085
95.00	-25.88	-7.12	0.00	-75.82	0.00	75.82	1,738.93		2,258.06	•	8.89	-0.83	0.082
99.00	-23.11	-6.29	0.00	-47.35	0.00	47.35	1,694.48		2,116.07		9.60	-0.86	0.058
100.00	-14.34	-4.94	0.00	-41.07	0.00	41.07	1,683.10		2,080.94		9.78	-0.86	0.048
104.00	-11.71	-4.10	0.00	-21.31	0.00	21.31	1,636.52		1,941.96	972.42	10.51	-0.87	0.029
105.00	-11.51	-4.03	0.00	-17.21	0.00	17.21	1,624.61		1,907.63	955.23	10.69	-0.88	0.025
109.00 110.00	-0.34 -0.17	-0.05 -0.02	0.00 0.00	-0.06 -0.02	0.00 0.00	0.06 0.02	1,575.88		1,772.05	887.34	11.43	-0.88 -0.88	0.000 0.000
	-						1,563.44		1,738.62	870.60	11.61		
111.00	0.00	-0.01	0.00	0.00	0.00	0.00	1,550.88	775.44	1,705.38	853.95	11.80	-0.88	0.000

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:21 PM

Customer: AT&T MOBILITY

<u>Load Case:</u> 1.0D + 1.0W Serviceability 60 mph 17 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.00
Wind Load Factor :1.00

Wind Importance Factor 1.00

Applied Segment Forces Summary

		Shaft I	orces		Discrete	Forces		Linear F	orces		Sum o	f Forces	
Seg			Dead		Torsion	Moment	Dead		Dead	11	Dead	Torsion	Moment
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		65.6	0.0					0.0	0.0	65.6	0.0	0.0	0.0
5.00		129.4	1,559.2					0.0	65.5	129.4	1,624.7	0.0	0.0
10.00		126.1	1,518.7					0.0	163.7	126.1	1,682.4	0.0	0.0
15.00		124.6	1,478.2					0.0	163.7	124.6	1,641.8	0.0	0.0
20.00		126.4	1,437.6					0.0	163.7	126.4	1,601.3	0.0	0.0
25.00		128.8	1,397.1					0.0	163.7	128.8	1,560.8	0.0	0.0
30.00		130.0	1,356.6					0.0	163.7	130.0	1,520.2	0.0	0.0
35.00		130.2	1,316.1					0.0	163.7	130.2	1,479.7	0.0	0.0
40.00		114.7	1,275.5					0.0	163.7	114.7	1,439.2	0.0	0.0
43.83	Bot - Section 2	65.0	949.2					0.0	125.3	65.0	1,074.5	0.0	0.0
45.00		80.8	541.1					0.0	38.4	80.8	579.4	0.0	0.0
50.00		67.6	2,261.8					0.0	163.7	67.6	2,425.4	0.0	0.0
50.17	Top - Section 1	64.6	77.6					0.0	5.7	64.6	83.3	0.0	0.0
55.00		113.2	995.2					0.0	157.9	113.2	1,153.2	0.0	0.0
59.00	Appertunance(s)	63.6	799.9	490.8	0.0	0.0	600.0	0.0	130.9	554.4	1,530.9	0.0	0.0
60.00		62.7	196.4					0.0	32.7	62.7	229.2	0.0	0.0
64.00	Appertunance(s)	62.4	771.6	499.3	0.0	0.0	600.0	0.0	130.9	561.7	1,502.5	0.0	0.0
65.00		61.4	189.3					0.0	32.7	61.4	222.1	0.0	0.0
69.00	Appertunance(s)	61.1	743.2	507.3	0.0	0.0	600.0	0.0	130.9	568.4	1,474.1	0.0	0.0
70.00		60.0	182.3					0.0	32.7	60.0	215.0	0.0	0.0
74.00	Appertunance(s)	59.7	714.8	514.8	0.0	0.0	600.0	0.0	130.9	574.5	1,445.7	0.0	0.0
75.00		58.5	175.2					0.0	32.7	58.5	207.9	0.0	0.0
79.00	Appertunance(s)	58.1	686.5	521.9	0.0	0.0	600.0	0.0	130.9	580.1	1,417.4	0.0	0.0
80.00		56.8	168.1					0.0	32.7	56.8	200.8	0.0	0.0
84.00	Appertunance(s)	56.5	658.1	528.7	0.0	0.0	600.0	0.0	130.9	585.2	1,389.0	0.0	0.0
85.00		55.1	161.0					0.0	32.7	55.1	193.7	0.0	0.0
89.00	Appertunance(s)	51.1	629.7	535.2	0.0	0.0	600.0	0.0	130.9	586.3	1,360.6	0.0	0.0
89.66	Bot - Section 3	10.9	101.5					0.0	21.6	10.9	123.1	0.0	0.0
90.00		46.9	82.9					0.0	11.2	46.9	94.0	0.0	0.0
94.00	Appertunance(s)	46.8	952.4	541.4	0.0	0.0	600.0	0.0	130.9	588.2	1,683.3	0.0	0.0
94.35	Top - Section 2	10.6	80.8					0.0	11.3	10.6	92.1	0.0	0.0
95.00	-	48.6	55.9					0.0	21.4	48.6	77.3	0.0	0.0
99.00	Appertunance(s)	51.9	334.8	547.3	0.0	0.0	600.0	0.0	130.9	599.2	1,065.8	0.0	0.0
100.00	Appertunance(s)	50.3	81.7	1,199.5			2,105.8	0.0	32.7	1,249.8	2,220.2	0.0	0.0
104.00	Appertunance(s)	49.9	318.6	553.0	0.0	0.0	600.0	0.0	47.4	602.9	966.0	0.0	0.0
105.00	., ,	48.2	77.6					0.0	11.8	48.2	89.5	0.0	0.0
109.00	Appertunance(s)	47.8	302.4	3,095.0	0.0	1,232.4	3,850.0	0.0	47.4	3,142.8	4,199.8	0.0	0.0
110.00		18.7	73.6	,		•	,	0.0	0.0	18.7	73.6	0.0	0.0
111.00		9.3	72.8					0.0	0.0	9.3	72.8	0.0	0.0
									tals:	12,208.0		0.00	0.00

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer: AT&T MOBILITY

<u>Load Case:</u> 1.0D + 1.0W Serviceability 60 mph 17 Iterations

Gust Response Factor :1.10

Wind Importance Factor 1.00

Dead Load Factor :1.00 Wind Load Factor :1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-40.01	-12.15	0.00	-1,042.62	0.00	1,042.62	6,600.84	3.300.42	15.856.1	7.939.85	0.00	0.00	0.137
5.00	-38.38	-12.05	0.00	-981.86		981.86	6,482.15	,	,	,	0.02	-0.04	0.135
10.00	-36.69	-11.94	0.00	-921.62		921.62	6,360.79				0.08	-0.07	0.133
15.00	-35.04	-11.84	0.00	-861.90	0.00	861.90	6,236.75				0.17	-0.11	0.130
20.00	-33.43	-11.73	0.00	-802.70	0.00	802.70	6,110.05	3,055.03	13,157.9	6,588.75	0.31	-0.15	0.127
25.00	-31.86	-11.62	0.00	-744.04	0.00	744.04	5,980.68	2,990.34	12,507.5	6,263.09	0.48	-0.18	0.124
30.00	-30.33	-11.50	0.00	-685.94	0.00	685.94	5,835.35	2,917.67	11,840.9	5,929.26	0.70	-0.22	0.121
35.00	-28.85	-11.39	0.00	-628.42	0.00	628.42	5,658.36	2,829.18	11,130.0	5,573.30	0.95	-0.26	0.118
40.00	-27.40	-11.28	0.00	-571.48	0.00	571.48	5,481.38	2,740.69	10,441.2	5,228.37	1.25	-0.30	0.114
43.83	-26.32	-11.22	0.00	-528.29		528.29	5,345.87	2,672.94	9,928.68	4,971.72	1.50	-0.33	0.111
45.00	-25.74	-11.15	0.00	-515.15		515.15	•	,	9,774.36	,	1.58	-0.34	0.110
50.00	-23.31	-11.07	0.00	-459.41	0.00	459.41	5,127.41				1.96	-0.38	0.105
50.17	-23.22	-11.01	0.00	-457.48		457.48	4,560.16				1.97	-0.38	0.115
55.00	-22.06	-10.91	0.00	-404.33		404.33	4,428.33				2.37	-0.41	0.109
59.00	-20.53	-10.35	0.00	-360.71	0.00	360.71	4,304.44	,	,	,	2.73	-0.45	0.103
60.00	-20.30	-10.29	0.00	-350.36		350.36	4,273.47				2.83	-0.45	0.101
64.00	-18.80	-9.72	0.00	-309.20		309.20	4,149.58				3.22	-0.48	0.095
65.00	-18.58	-9.66	0.00	-299.48		299.48	4,118.61	•	•	•	3.32	-0.49	0.093
69.00	-17.11	-9.09	0.00	-260.83		260.83	•	•	6,334.35	,	3.75	-0.52	0.087
70.00	-16.89	-9.03	0.00	-251.74		251.74			6,235.97		3.86	-0.53	0.085
74.00	-15.45	-8.45	0.00	-215.61	0.00	215.61	3,839.86				4.31	-0.55	0.078
75.00	-15.24	-8.39	0.00	-207.16		207.16	3,808.88	•	,	,	4.43	-0.56	0.076
79.00	-13.82	-7.80	0.00	-173.60		173.60	-,	, -	5,385.13	,	4.91	-0.59	0.068
80.00	-13.62	-7.75	0.00	-165.80		165.80	3,654.02	•	•	•	5.03	-0.59	0.066
84.00	-12.24	-7.15	0.00	-134.82		134.82	•	,	4,939.39	,	5.54	-0.61	0.058
85.00	-12.04	-7.09	0.00	-127.67		127.67			4,852.56		5.67	-0.62	0.056
89.00	-10.69	-6.49	0.00	-99.29		99.29	3,375.27				6.19	-0.64	0.047
89.66	-10.56	-6.48	0.00	-95.01	0.00	95.01			4,458.15		6.28	-0.64	0.046
90.00 94.00	-10.47 -8.79	-6.44 -5.83	0.00	-92.80 -67.05	0.00 0.00	92.80 67.05	•	,	4,429.93	,	6.33	-0.64 -0.66	0.045 0.035
94.00 94.35	-8.79 -8.70	-5.82	0.00 0.00	-67.03 -65.03	0.00	65.03	1,746.03		4,105.69 2,281.47		6.87 6.92	-0.66	0.033
95.00	-8.62	-5.77	0.00	-61.23	0.00	61.23	1,738.93		2,258.06		7.01	-0.66	0.059
99.00	-7.56	-5.16	0.00	-38.14	0.00	38.14	1,694,48		2,116.07		7.57	-0.68	0.040
100.00	-7.36 -5.36	-3.89	0.00	-32.98		32.98	1,683,10		2,080.94		7.72	-0.68	0.035
104.00	-4.40	-3.27	0.00	-17.44		17.44	1,636.52		1,941.96	972.42	8.29	-0.69	0.021
105.00	-4.31	-3.22	0.00	-14.17		14.17	1,624.61		1,907.63	955.23	8.44	-0.69	0.017
109.00	-0.15	-0.03	0.00	-0.04		0.04	1,575,88		1.772.05	887.34	9.02	-0.70	0.000
110.00	-0.07	-0.01	0.00	-0.01		0.04	1,563.44		1,738.62	870.60	9.17	-0.70	0.000
111.00	0.00	-0.01	0.00	0.00		0.00	1,550,88		1,705.38	853.95	9.31	-0.70	0.000
	0.00	0.01	0.00	0.00	0.50	0.00	.,000.00		.,. 00.00	300.00	0.01	J J	2.000

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01

Customer: AT&T MOBILITY

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Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

	-
Spectral Response Acceleration for Short Period (S s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S 1):	0.06
Long-Period Transition Period (T L):	6
Importance Factor (I _E):	1.00
Site Coefficient F a:	1.60
Site Coefficient F _v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S ds):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S d1):	0.10
Seismic Response Coefficient (C s):	0.06
Upper Limit C _s	0.06
Lower Limit C _s	0.03
Period based on Rayleigh Method (sec):	1.14
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.32
Total Unfactored Dead Load:	40.01 k
Seismic Base Shear (E):	3.10 k

<u>Load Case</u> (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

	Height Above Base	Weight	W _z		Horizontal Force	Vertical Force
Segment	(ft)	(lb)	(lb-ft)	C _{vx}	(lb)	(lb)
38	110.50	73	37	0.004	12	90
37	109.50	74	37	0.004	12	91
36	107.00	350	168	0.017	54	433
35	104.50	89	42	0.004	13	111
34	102.00	366	165	0.017	53	453
33	99.50	114	50	0.005	16	142
32	97.00	466	197	0.020	63	577
31	94.67	77	32	0.003	10	96
30	94.17	92	37	0.004	12	114
29	92.00	1,083	427	0.044	136	1,342
28	89.83	94	36	0.004	11	116
27	89.33	123	47	0.005	15	152
26	87.00	761	279	0.029	89	942
25	84.50	194	68	0.007	22	240
24	82.00	789	267	0.028	85	977
23	79.50	201	65	0.007	21	249
22	77.00	817	255	0.026	81	1,012
21	74.50	208	62	0.006	20	257
20	72.00	846	241	0.025	77	1,048
19	69.50	215	59	0.006	19	266
18	67.00	874	227	0.023	72	1,083
17	64.50	222	55	0.006	17	275
16	62.00	902	211	0.022	67	1,118

Site Number: 411258 Code: ANSI/TIA-222-G $^{\mbox{\scriptsize 0}}$ 2007 - 2017 by ATC IP LLC. All rights reserved.

Site Name:

Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer: AT&T MOBILITY						
15	59.50	229	51	0.005	16	284
14	57.00	931	195	0.020	62	1,153
13	52.59	1,153	217	0.022	69	1,428
12	50.09	83	15	0.002	5	103
11	47.50	2,425	399	0.041	128	3,004
10	44.41	579	87	0.009	28	718
9	41.91	1,074	150	0.015	48	1,331
8	37.50	1,439	173	0.018	55	1,783
7	32.50	1,480	147	0.015	47	1,833
6	27.50	1,520	121	0.013	39	1,883
5	22.50	1,561	96	0.010	31	1,933
4	17.50	1,601	70	0.007	22	1,983
3	12.50	1,642	46	0.005	15	2,034
2	7.50	1,682	24	0.002	8	2,084
1	2.50	1,625	5	0.001	2	2,012
Samsung PCS/AWS Dual	109.00	253	125	0.013	40	314
Samsung 700/850MHz D	109.00	211	104	0.011	33	261
Raycap RC2DC-3315-PF	109.00	64	32	0.003	10	79
Antel LPA-80063/4CF	109.00	120	59	0.006	19	149
Commscope SBNHH-1D65	109.00	304	150	0.015	48	377
Flat T-Arm	109.00	750	370	0.038	118	929
Pine Branch	109.00	600	296	0.030	95	743
VZW Unused Reserve:	109.00	1,548	764	0.079	244	1,917
Pine Branch	104.00	600	278	0.029	89	743
RCU	100.00	18	8	0.001	3	22
Raycap DC6-48-60-18-	100.00	32	14	0.001	4	39
Raycap DC6-48-60-18-	100.00	33	14	0.001	5	41
CCI DTMABP7819VG12A	100.00	173	76	0.008	24	214
Ericsson RRUS-11 (50	100.00	150	66	0.007	21	186
Ericsson RRUS 32 (50	100.00	152	67	0.007	21	189
Ericsson RRUS 32 B2	100.00	159	70	0.007	22	197
Quintel QS66512-2	100.00	111	49	0.005	16	137
Andrew SBNH-1D6565C	100.00	365	161	0.017	51	452
Flat T-Arm	100.00	750	330	0.034	106	929
CCI TPA-65R-LCUUUU-H	100.00	163	72	0.007	23	202
Pine Branch	99.00	600	261	0.027	83	743
Pine Branch	94.00	600	243	0.025	78	743
Pine Branch	89.00	600	226	0.023	72	743
Pine Branch	84.00	600	210	0.022	67	743
Pine Branch	79.00	600	193	0.020	62	743
Pine Branch	74.00	600	177	0.018	57	743
Pine Branch	69.00	600	162	0.017	52	743
Pine Branch	64.00	600	146	0.015	47	743
Pine Branch	59.00	600	132	0.014	42	743
		40,012	9,719	1.000	3,104	49,560

<u>Load Case</u> (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

	Height Above Base	Weight	W _z		Horizontal Force	Vertical Force
Segment	(ft)	(lb)	(lb-ft)	C vx	(lb)	(lb)
38	110.50	73	37	0.004	12	63
37	109.50	74	37	0.004	12	63
36	107.00	350	168	0.017	54	301
35	104.50	89	42	0.004	13	77
34	102.00	366	165	0.017	53	315
33	99.50	114	50	0.005	16	99
32	97.00	466	197	0.020	63	401
31	94.67	77	32	0.003	10	67
30	94.17	92	37	0.004	12	79
29	92.00	1.083	427	0.044	136	933

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer:	AT&T	MOBILITY
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Customer: AT&T MOBILITY						
28	89.83	94	36	0.004	11	81
27	89.33	123	47	0.005	15	106
26	87.00	761	279	0.029	89	655
25	84.50	194	68	0.007	22	167
24	82.00	789	267	0.028	85	680
23	79.50	201	65	0.007	21	173
22	77.00	817	255	0.026	81	704
21	74.50	208	62	0.006	20	179
20	72.00	846	241	0.025	77	729
19	69.50	215	59	0.006	19	185
18	67.00	874	227	0.023	72 47	753
17	64.50	222	55	0.006	17	191
16	62.00	902	211	0.022	67	777
15	59.50	229	51	0.005	16	197
14	57.00 53.50	931	195	0.020	62	802
13 12	52.59 50.09	1,153 83	217	0.022 0.002	69 5	993 72
11	47.50		15		128	
10		2,425	399	0.041		2,089
	44.41	579	87	0.009	28	499
9	41.91	1,074	150	0.015	48 55	926
8 7	37.50 32.50	1,439	173	0.018	55 47	1,240
	32.50	1,480	147	0.015	47	1,275
6	27.50	1,520	121	0.013	39	1,310
5	22.50	1,561	96	0.010	31	1,344
4 3	17.50 12.50	1,601	70	0.007 0.005	22 15	1,379
2	7.50	1,642	46	0.003	8	1,414
1	2.50	1,682	24			1,449
-		1,625	5	0.001	2	1,399
Samsung PCS/AWS Dual Samsung 700/850MHz D	109.00 109.00	253 211	125 104	0.013 0.011	40 33	218 182
Raycap RC2DC-3315-PF	109.00	64	32	0.011	33 10	55
Antel LPA-80063/4CF	109.00	120	59	0.006	19	103
Commscope SBNHH-1D65	109.00	304		0.000	48	262
Flat T-Arm	109.00	750	150 370	0.013	118	646
Pine Branch	109.00	600	296	0.030	95	517
VZW Unused Reserve:	109.00	1,548	764	0.079	244	1,333
Pine Branch	104.00	600	278	0.029	89	517
RCU	100.00	18	8	0.001	3	16
Raycap DC6-48-60-18-	100.00	32	14	0.001	4	27
Raycap DC6-48-60-18-	100.00	33	14	0.001	5	28
CCI DTMABP7819VG12A	100.00	173	76	0.008	24	149
Ericsson RRUS-11 (50	100.00	150	66	0.007	21	129
Ericsson RRUS 32 (50	100.00	152	67	0.007	21	131
Ericsson RRUS 32 B2	100.00	159	70	0.007	22	137
Quintel QS66512-2	100.00	111	49	0.005	16	96
Andrew SBNH-1D6565C	100.00	365	161	0.017	51	314
Flat T-Arm	100.00	750	330	0.034	106	646
CCI TPA-65R-LCUUUU-H	100.00	163	72	0.007	23	141
Pine Branch	99.00	600	261	0.027	83	517
Pine Branch	94.00	600	243	0.025	78	517
Pine Branch	89.00	600	226	0.023	72	517
Pine Branch	84.00	600	210	0.022	67	517
Pine Branch	79.00	600	193	0.020	62	517
Pine Branch	74.00	600	177	0.018	57	517
Pine Branch	69.00	600	162	0.017	52	517
Pine Branch	64.00	600	146	0.015	47	517
Pine Branch	59.00	600	132	0.014	42	517
		40,012	9,719	1.000	3,104	34,466

Code: ANSI/TIA-222-G © 2007 - 2017 by ATC IP LLC. All rights reserved.

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer: AT&T MOBILITY

<u>Load Case</u> (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Calculated Forces

Site Number: 411258

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect I (in)	Rotation (deg)	Ratio
(1.5)													
0.00	-47.55	-3.10	0.00	-257.81	0.00	257.81	6,600.84				0.00	0.00	0.040
5.00	-45.46	-3.10	0.00	-242.28	0.00	242.28	6,482.15	•	,	,	0.00	-0.01	0.039
10.00	-43.43	-3.10	0.00	-226.76	0.00	226.76	6,360.79				0.02	-0.02	0.038
15.00	-41.44	-3.08	0.00	-211.29	0.00	211.29	6,236.75	•			0.04	-0.03	0.037
20.00	-39.51	-3.05	0.00	-195.89	0.00	195.89	6,110.05	,	,	,	0.08	-0.04	0.036
25.00	-37.63	-3.02	0.00	-180.62	0.00	180.62	5,980.68 2				0.12	-0.05	0.035
30.00 35.00	-35.79	-2.98 -2.93	0.00	-165.52	0.00 0.00	165.52 150.64	5,835.35 2				0.17	-0.05 -0.06	0.034
	-34.01		0.00	-150.64			5,658.36 2				0.23		0.033
40.00	-32.68	-2.88	0.00 0.00	-136.02 -124.99	0.00	136.02	5,481.38 2	,	,	,	0.31	-0.07	0.032
43.83 45.00	-31.96 -28.96	-2.85 -2.73	0.00	-124.99 -121.65	0.00 0.00	124.99 121.65	5,345.87 2 5,304.39 2	, -	-,	, -	0.37 0.39	-0.08 -0.08	0.031 0.030
50.00	-28.85	-2.73 -2.72	0.00	-121.03	0.00	108.02	5,127.41 2				0.39	-0.08 -0.09	0.030
50.17	-27.43	-2.65	0.00	-107.55	0.00	107.55	4,560.16 2				0.48	-0.09	0.032
55.00	-26.27	-2.59	0.00	-94.74	0.00	94.74	4,428.33				0.58	-0.10	0.030
59.00	-25.25	-2.53	0.00	-84.37	0.00	84.37	4,304.44 2				0.67	-0.11	0.029
60.00	-24.13	-2.47	0.00	-81.84	0.00	81.84	4,273.47				0.69	-0.11	0.028
64.00	-23.11	-2.40	0.00	-71.97	0.00	71.97	4,149.58 2	•	,	,	0.78	-0.12	0.027
65.00	-22.03	-2.33	0.00	-69.57	0.00	69.57	4,118.61 2				0.81	-0.12	0.026
69.00	-21.02	-2.26	0.00	-60.25	0.00	60.25	3,994.72 1	1,997.36	6,334.35	3,171.88	0.91	-0.12	0.024
70.00	-19.97	-2.18	0.00	-58.00	0.00	58.00	3,963.75 1	1,981.87	6,235.97	3,122.62	0.94	-0.13	0.024
74.00	-18.97	-2.10	0.00	-49.28	0.00	49.28	3,839.86 1	1,919.93	5,850.11	2,929.41	1.04	-0.13	0.022
75.00	-17.96	-2.02	0.00	-47.17	0.00	47.17	3,808.88 1	1,904.44	5,755.58	2,882.07	1.07	-0.13	0.021
79.00	-16.97	-1.94	0.00	-39.09	0.00	39.09	3,684.99 1	1,842.50	5,385.13	2,696.57	1.19	-0.14	0.019
80.00	-15.99	-1.85	0.00	-37.16	0.00	37.16	3,654.02 1				1.22	-0.14	0.018
84.00	-15.01	-1.76	0.00	-29.76	0.00	29.76	3,530.13 1				1.34	-0.15	0.016
85.00	-14.06	-1.67	0.00	-28.00	0.00	28.00	3,499.16 1				1.37	-0.15	0.016
89.00	-13.17	-1.58	0.00	-21.33	0.00	21.33	3,375.27				1.49	-0.15	0.013
89.66	-13.05	-1.57	0.00	-20.29	0.00	20.29	3,354.86 1				1.51	-0.15	0.013
90.00	-11.71	-1.43	0.00	-19.75	0.00	19.75	3,344.30 1				1.52	-0.15	0.012
94.00	-10.85	-1.34	0.00	-14.04	0.00	14.04	3,220.41 1				1.65	-0.16	0.010
94.35	-10.76	-1.33	0.00	-13.58	0.00	13.58			2,281.47		1.66	-0.16 0.16	0.018
95.00	-10.18	-1.26	0.00	-12.71	0.00	12.71	1,738.93		2,258.06	,	1.69	-0.16	0.017
99.00	-9.30	-1.16	0.00	-7.66 6.50	0.00	7.66	1,694.48	-	2,116.07	,	1.82	-0.16	0.013
100.00 104.00	-6.23 -5.38	-0.80 -0.70	0.00 0.00	-6.50 -3.29	0.00 0.00	6.50 3.29	1,683.10 1,636.52		2,080.94 1,941.96	972.42	1.85 1.99	-0.16 -0.16	0.010 0.007
104.00	-3.36 -4.95	-0.70	0.00	-3.29 -2.59	0.00	2.59	1,624.61		1,941.90	955.23	2.02	-0.16 -0.16	0.007
109.00	-4.95 -0.09	-0.04	0.00	-2.59	0.00	0.01	1,575.88		1,907.03	887.34	2.02	-0.16 -0.16	0.000
110.00	0.09	0.00	0.00	0.00	0.00	0.01	1,563.44		1,772.05	870.60	2.10	-0.16 -0.16	0.000
111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,550.88		1,705.38	853.95	2.23	-0.16	0.000
		3.00	3.00	5.50	0.00	3.00	.,000.00		.,				

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer: AT&T MOBILITY

<u>Load Case</u> (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect I (in)	Rotation (deg)	Ratio
0.00	-33.07	-3.10	0.00	-256.70	0.00	256.70	6,600.84				0.00	0.00	0.037
5.00	-31.62	-3.10	0.00	-241.18	0.00	241.18	6,482.15	•	,	,	0.00	-0.01	0.037
10.00 15.00	-30.20 -28.82	-3.09 -3.07	0.00 0.00	-225.68 -210.23	0.00 0.00	225.68 210.23	6,360.79 3 6,236.75 3				0.02 0.04	-0.02 -0.03	0.036 0.035
20.00	-20.02	-3.07	0.00	-194.87	0.00	194.87	6,110.05				0.04	-0.03 -0.04	0.033
25.00	-26.17	-3.01	0.00	-179.64	0.00	179.64	5,980.68 2				0.00	-0.05	0.033
30.00	-24.89	-2.97	0.00	-164.59	0.00	164.59	5,835.35				0.17	-0.05	0.032
35.00	-23.65	-2.91	0.00	-149.77	0.00	149.77	5,658.36 2				0.23	-0.06	0.031
40.00	-22.73	-2.87	0.00	-135.21	0.00	135.21	5,481.38 2				0.30	-0.07	0.030
43.83	-22.23	-2.84	0.00	-124.23	0.00	124.23	5,345.87	,	,	,	0.37	-0.08	0.029
45.00	-20.14	-2.71	0.00	-120.90	0.00	120.90	5,304.39 2				0.39	-0.08	0.028
50.00	-20.07	-2.71	0.00	-107.35	0.00	107.35	5,127.41 2	2,563.70	9,129.52	4,571.55	0.48	-0.09	0.027
50.17	-19.07	-2.64	0.00	-106.87	0.00	106.87	4,560.16 2				0.48	-0.09	0.030
55.00	-18.27	-2.58	0.00	-94.14	0.00	94.14	4,428.33				0.58	-0.10	0.028
59.00	-17.56	-2.52	0.00	-83.83	0.00	83.83	4,304.44				0.66	-0.11	0.027
60.00	-16.78	-2.45	0.00	-81.31	0.00	81.31	4,273.47	•	,	,	0.68	-0.11	0.026
64.00	-16.07	-2.39	0.00	-71.50	0.00	71.50	4,149.58				0.78	-0.12	0.025
65.00	-15.32	-2.31	0.00	-69.11	0.00	69.11	4,118.61 2	•	,	,	0.80	-0.12	0.024
69.00	-14.62	-2.24	0.00	-59.85	0.00	59.85	3,994.72	•	,	,	0.90	-0.12	0.023
70.00	-13.89	-2.17	0.00	-57.61	0.00	57.61	3,963.75	,	-,	-, -	0.93	-0.13	0.022
74.00	-13.19	-2.09	0.00	-48.95	0.00	48.95	3,839.86	•	•	•	1.04	-0.13	0.020
75.00	-12.49	-2.01	0.00	-46.86	0.00	46.86	3,808.88				1.07	-0.13	0.020
79.00 80.00	-11.80 -11.12	-1.92 -1.84	0.00 0.00	-38.83 -36.90	0.00 0.00	38.83 36.90	3,684.99	, -	-,	,	1.18 1.21	-0.14 -0.14	0.018 0.017
84.00	-11.12	-1.75	0.00	-30.90	0.00	29.56	3,654.02 <i>1</i> 3,530.13 <i>1</i>				1.33	-0.14 -0.14	0.017
85.00	-10.43	-1.75	0.00	-27.81	0.00	27.81	3,499.16 ²				1.36	-0.14 -0.15	0.013
89.00	-9.16	-1.57	0.00	-21.18	0.00	21.18	3,375.27				1.48	-0.15	0.012
89.66	-9.08	-1.56	0.00	-20.15	0.00	20.15	3,354.86				1.50	-0.15	0.012
90.00	-8.14	-1.42	0.00	-19.62	0.00	19.62	3,344.30				1.52	-0.15	0.011
94.00	-7.55	-1.33	0.00	-13.94	0.00	13.94	3,220.41				1.64	-0.15	0.009
94.35	-7.48	-1.32	0.00	-13.48	0.00	13.48			2,281.47		1.65	-0.15	0.016
95.00	-7.08	-1.25	0.00	-12.62	0.00	12.62	1,738.93		2,258.06		1.68	-0.15	0.015
99.00	-6.46	-1.15	0.00	-7.61	0.00	7.61	1,694.48	847.24	2,116.07	1,059.61	1.81	-0.16	0.011
100.00	-4.34	-0.80	0.00	-6.46	0.00	6.46	1,683.10	841.55	2,080.94	1,042.02	1.84	-0.16	0.009
104.00	-3.74	-0.69	0.00	-3.26	0.00	3.26	1,636.52	818.26	1,941.96	972.42	1.98	-0.16	0.006
105.00	-3.44	-0.64	0.00	-2.57	0.00	2.57	1,624.61	812.30	1,907.63	955.23	2.01	-0.16	0.005
109.00	-0.06	-0.01	0.00	-0.01	0.00	0.01	1,575.88		1,772.05	887.34	2.15	-0.16	0.000
110.00	0.00	0.00	0.00	0.00	0.00	0.00	1,563.44		1,738.62	870.60	2.18	-0.16	0.000
111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,550.88	775.44	1,705.38	853.95	2.21	-0.16	0.000

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer: AT&T MOBILITY

Equivalent Modal Forces Analysis

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S 1):	0.06
Importance Factor (I _E):	1.00
Site Coefficient F _a :	1.60
Site Coefficient F _v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S ds):	0.19
Desing Spectral Response Acceleration at 1.0 Second Period (S d1):	0.10
Period Based on Rayleigh Method (sec):	1.14
Redundancy Factor (p):	1.30

<u>Load Case (1.2 + 0.2Sds) * DL + E EMAM</u> Seismic Equivalent Modal Analysis Method

	Height Above						Horizontal	Vertical
	Base	Weight					Force	Force
Segment	(ft)	(lb)	а	b	С	Saz	(lb)	(lb)
38	110.50	73	1.873	1.892	1.108	0.385	24	90
37	109.50	74	1.839	1.723	1.046	0.364	23	91
36	107.00	350	1.756	1.347	0.904	0.315	95	433
35	104.50	89	1.675	1.030	0.777	0.270	21	111
34	102.00	366	1.596	0.766	0.665	0.228	72	453
33	99.50	114	1.519	0.548	0.565	0.191	19	142
32	97.00	466	1.443	0.371	0.478	0.158	64	577
31	94.67	77	1.375	0.238	0.406	0.131	9	96
30	94.17	92	1.360	0.213	0.392	0.125	10	114
29	92.00	1,083	1.298	0.118	0.335	0.103	97	1,342
28	89.83	94	1.238	0.043	0.284	0.085	7	116
27	89.33	123	1.224	0.029	0.273	0.081	9	152
26	87.00	761	1.161	-0.029	0.227	0.064	42	942
25	84.50	194	1.095	-0.073	0.184	0.050	8	240
24	82.00	789	1.031	-0.101	0.148	0.039	27	977
23	79.50	201	0.970	-0.116	0.117	0.031	5	249
22	77.00	817	0.909	-0.122	0.091	0.026	18	1,012
21	74.50	208	0.851	-0.119	0.070	0.023	4	257
20	72.00	846	0.795	-0.111	0.052	0.022	16	1,048
19	69.50	215	0.741	-0.099	0.039	0.023	4	266
18	67.00	874	0.689	-0.083	0.028	0.025	19	1,083
17	64.50	222	0.638	-0.067	0.019	0.028	5	275
16	62.00	902	0.590	-0.049	0.013	0.031	25	1,118
15	59.50	229	0.543	-0.032	0.009	0.035	7	284
14	57.00	931	0.498	-0.016	0.007	0.038	30	1,153
13	52.59	1,153	0.424	0.010	0.006	0.042	42	1,428
12	50.09	83	0.385	0.023	0.007	0.043	3	103
11	47.50	2,425	0.346	0.034	0.009	0.044	93	3,004
10	44.41	579	0.303	0.045	0.012	0.044	22	718
9	41.91	1,074	0.269	0.052	0.015	0.044	41	1,331
8	37.50	1,439	0.216	0.061	0.021	0.043	53	1,783
7	32.50	1,480	0.162	0.067	0.028	0.040	51	1,833
6	27.50	1,520	0.116	0.070	0.035	0.037	48	1,883
5	22.50	1,561	0.078	0.072	0.040	0.034	46	1,933

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer: AT&T MOBILITY

4	17.50	1,601	0.047	0.071	0.042	0.031	43	1,983
3	12.50	1,642	0.024	0.066	0.039	0.027	39	2,034
2	7.50	1,682	0.009	0.053	0.030	0.021	31	2,084
1	2.50	1,625	0.001	0.024	0.013	0.010	14	2,012
Samsung PCS/AWS	109.00	253	1.823	1.643	1.016	0.354	78	314
Samsung 700/850MHz D	109.00	211	1.823	1.643	1.016	0.354	65	261
Raycap RC2DC-3315-PF	109.00	64	1.823	1.643	1.016	0.354	20	79
Antel LPA-80063/4CF	109.00	120	1.823	1.643	1.016	0.354	37	149
Commscope SBNHH-	109.00	304	1.823	1.643	1.016	0.354	93	377
lat T-Arm	109.00	750	1.823	1.643	1.016	0.354	230	929
Pine Branch	109.00	600	1.823	1.643	1.016	0.354	184	743
/ZW Unused Reserve:	109.00	1,548	1.823	1.643	1.016	0.354	475	1,917
Pine Branch	104.00	600	1.659	0.973	0.753	0.261	136	743
RCU	100.00	18	1.534	0.588	0.584	0.198	3	22
Raycap DC6-48-60-18-	100.00	32	1.534	0.588	0.584	0.198	5	39
Raycap DC6-48-60-18-	100.00	33	1.534	0.588	0.584	0.198	6	41
CI DTMABP7819VG12A	100.00	173	1.534	0.588	0.584	0.198	30	214
ricsson RRUS-11 (50	100.00	150	1.534	0.588	0.584	0.198	26	186
Ericsson RRUS 32 (50	100.00	152	1.534	0.588	0.584	0.198	26	189
ricsson RRUS 32 B2	100.00	159	1.534	0.588	0.584	0.198	27	197
Quintel QS66512-2	100.00	111	1.534	0.588	0.584	0.198	19	137
Andrew SBNH-1D6565C	100.00	365	1.534	0.588	0.584	0.198	63	452
lat T-Arm	100.00	750	1.534	0.588	0.584	0.198	129	929
CCI TPA-65R-LCUUUU-H	100.00	163	1.534	0.588	0.584	0.198	28	202
Pine Branch	99.00	600	1.503	0.510	0.547	0.184	96	743
ine Branch	94.00	600	1.355	0.205	0.387	0.123	64	743
Pine Branch	89.00	600	1.215	0.019	0.266	0.078	41	743
ine Branch	84.00	600	1.082	-0.079	0.176	0.047	25	743
ine Branch	79.00	600	0.957	-0.118	0.111	0.030	15	743
ine Branch	74.00	600	0.840	-0.118	0.066	0.023	12	743
Pine Branch	69.00	600	0.730	-0.096	0.036	0.024	12	743
Pine Branch	64.00	600	0.628	-0.063	0.018	0.029	15	743
Pine Branch	59.00	600	0.534	-0.029	0.009	0.035	18	743
		40.012	73.047	28.766	25.461	9.178	3.165	49.560

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

	Height Above Base	Weight					Horizontal Force	Vertical Force
Segment	(ft)	(lb)	а	b	С	Saz	(lb)	(lb)
38	110.50	73	1.873	1.892	1.108	0.385	24	63
37	109.50	74	1.839	1.723	1.046	0.364	23	63
36	107.00	350	1.756	1.347	0.904	0.315	95	301
35	104.50	89	1.675	1.030	0.777	0.270	21	77
34	102.00	366	1.596	0.766	0.665	0.228	72	315
33	99.50	114	1.519	0.548	0.565	0.191	19	99
32	97.00	466	1.443	0.371	0.478	0.158	64	401
31	94.67	77	1.375	0.238	0.406	0.131	9	67
30	94.17	92	1.360	0.213	0.392	0.125	10	79
29	92.00	1,083	1.298	0.118	0.335	0.103	97	933
28	89.83	94	1.238	0.043	0.284	0.085	7	81
27	89.33	123	1.224	0.029	0.273	0.081	9	106
26	87.00	761	1.161	-0.029	0.227	0.064	42	655
25	84.50	194	1.095	-0.073	0.184	0.050	8	167
24	82.00	789	1.031	-0.101	0.148	0.039	27	680
23	79.50	201	0.970	-0.116	0.117	0.031	5	173
22	77.00	817	0.909	-0.122	0.091	0.026	18	704
21	74.50	208	0.851	-0.119	0.070	0.023	4	179
20	72.00	846	0.795	-0.111	0.052	0.022	16	729
19	69.50	215	0.741	-0.099	0.039	0.023	4	185

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer: AT&T MOBILITY

18	67.00	874	0.689	-0.083	0.028	0.025	19	753
17	64.50	222	0.638	-0.067	0.019	0.028	5	191
16	62.00	902	0.590	-0.049	0.013	0.031	25	777
5	59.50	229	0.543	-0.032	0.009	0.035	7	197
14	57.00	931	0.498	-0.016	0.007	0.038	30	802
13	52.59	1,153	0.424	0.010	0.006	0.042	42	993
12	50.09	83	0.385	0.023	0.007	0.043	3	72
l1	47.50	2,425	0.346	0.034	0.009	0.044	93	2,089
10	44.41	579	0.303	0.045	0.012	0.044	22	49
)	41.91	1,074	0.269	0.052	0.015	0.044	41	92
3	37.50	1,439	0.216	0.061	0.021	0.043	53	1,24
•	32.50	1,480	0.162	0.067	0.028	0.040	51	1,27
6	27.50	1,520	0.116	0.070	0.035	0.037	48	1,31
;	22.50	1,561	0.078	0.072	0.040	0.034	46	1,34
ļ	17.50	1,601	0.047	0.071	0.042	0.031	43	1,37
3	12.50	1,642	0.024	0.066	0.039	0.027	39	1,41
2	7.50	1,682	0.009	0.053	0.030	0.021	31	1,44
1	2.50	1,625	0.001	0.024	0.013	0.010	14	1,39
Samsung PCS/AWS	109.00	253	1.823	1.643	1.016	0.354	78	21
Samsung 700/850MHz D	109.00	211	1.823	1.643	1.016	0.354	65	18
Raycap RC2DC-3315-PF	109.00	64	1.823	1.643	1.016	0.354	20	5
intel LPA-80063/4CF	109.00	120	1.823	1.643	1.016	0.354	37	10
Commscope SBNHH-	109.00	304	1.823	1.643	1.016	0.354	93	26
Flat T-Arm	109.00	750	1.823	1.643	1.016	0.354	230	64
Pine Branch	109.00	600	1.823	1.643	1.016	0.354	184	51
ZW Unused Reserve:	109.00	1,548	1.823	1.643	1.016	0.354	475	1,33
Pine Branch	104.00	600	1.659	0.973	0.753	0.261	136	51
RCU	100.00	18	1.534	0.588	0.584	0.198	3	10
Raycap DC6-48-60-18-	100.00	32	1.534	0.588	0.584	0.198	5	2
Raycap DC6-48-60-18-	100.00	33	1.534	0.588	0.584	0.198	6	28
CCI DTMABP7819VG12A	100.00	173	1.534	0.588	0.584	0.198	30	14
Ericsson RRUS-11 (50	100.00	150	1.534	0.588	0.584	0.198	26	12
Ericsson RRUS 32 (50	100.00	152	1.534	0.588	0.584	0.198	26	13
Ericsson RRUS 32 B2	100.00	159	1.534	0.588	0.584	0.198	27	13
Quintel QS66512-2	100.00	111	1.534	0.588	0.584	0.198	19	9
Andrew SBNH-1D6565C	100.00	365	1.534	0.588	0.584	0.198	63	31
Flat T-Arm	100.00	750	1.534	0.588	0.584	0.198	129	64
CCI TPA-65R-LCUUUU-H	100.00	163	1.534	0.588	0.584	0.198	28	14
Pine Branch	99.00	600	1.503	0.510	0.547	0.184	96	51
Pine Branch	94.00	600	1.355	0.205	0.387	0.123	64	51
Pine Branch	89.00	600	1.215	0.019	0.266	0.078	41	51
Pine Branch	84.00	600	1.082	-0.079	0.176	0.047	25	51
ine Branch	79.00	600	0.957	-0.118	0.111	0.030	15	51
Pine Branch	74.00	600	0.840	-0.118	0.066	0.023	12	51
Pine Branch	69.00	600	0.730	-0.096	0.036	0.024	12	51
Pine Branch	64.00	600	0.628	-0.063	0.018	0.029	15	51
Pine Branch	59.00	600	0.534	-0.029	0.009	0.035	18	51

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer: AT&T MOBILITY

<u>Load Case</u> (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

0.00	Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
5.00 -45.46 -3.13 0.00 -269.00 0.00 269.00 6.482.15 3.241.07 15.188.0 7.595.31 0.01 -0.01 0.02 -0.03 0.04 1 2.00 -31.57 9.583.57 0.08 -0.03 0.04 1 0.02 2.02 3.79 -2.93 0.00 -192.50 0.00 192.50 5.835.52 9.917.67 11,840.9 5.929.26 0.19 -0.06 0.039 3.00 -34.01 -2.89 0.00 -163.40 0.00 163.40 5.885.36 2.829.18 11,300.5573.30 0.26 0.07 0.038 4.00 4.00 163.40 5.481.38 2.740.69 10,412.52.28.37 0.34 -0.08 6.00<	(,													
10.00														
15.00 -41.44 -3.06								,	•	,	,			
20.00														
25.00 -37.63 -2.98 0.00 -207.41 0.00 207.41 5.980.68 2.990.34 12.507.5 6,263.09 0.13 -0.05 0.039 30.00 -35.79 -2.93 0.00 -192.50 0.00 192.50 5.835.35 2.917.67 11,840.9 5,929.26 0.19 -0.06 0.039 35.00 -34.01 -2.89 0.00 -177.83 0.00 177.83 5.658.36 2,829.18 11,130.0 5,573.30 0.26 -0.07 0.038 40.00 -32.68 -2.85 0.00 -163.40 0.00 163.40 5.481.38 2,740.69 10,441.2 5,228.37 0.34 -0.08 0.037 45.00 -28.96 -2.73 0.00 -149.18 0.00 149.18 5.304.39 2,655.20 9,774.36 4,894.45 0.44 -0.09 0.036 50.00 -28.85 -2.73 0.00 -135.51 0.00 135.51 5.127.41 2,563.70 9,129.52 4,571.55 0.54 -0.11 0.035 50.17 -27.43 -2.69 0.00 -135.03 0.00 135.03 4,560.16 2,280.08 8,298.22 4,155.28 0.55 -0.11 0.039 55.00 -26.27 -2.66 0.00 -122.04 0.00 122.04 4,428.33 2,214.17 7,792.67 3,902.12 0.66 -0.12 0.037 60.00 -24.13 -2.62 0.00 -108.74 0.00 108.74 4,273.47 2,136.74 7,254.51 3,632.65 0.79 -0.13 0.036 64.00 -23.11 -2.59 0.00 -98.28 0.00 98.28 4,149.58 2,074.79 6,837.85 3,424.01 0.90 -0.14 0.034 69.00 -21.02 -2.54 0.00 -82.83 0.00 82.83 3,994.72 1,997.36 6,334.35 3,171.88 1.05 -0.15 0.032 70.00 -19.97 -2.54 0.00 -82.83 0.00 82.83 3,994.72 1,997.36 6,334.35 3,171.88 1.05 -0.15 0.032 74.00 -18.97 -2.52 0.00 -72.66 0.00 72.66 3,839.86 1,919.35 8,585.13 2,665.77 1.39 -0.17 0.026 84.00 -15.99 -2.45 0.00 -47.82 0.00 47.82 3,634.03 3,983.75 3,715.85 3,266.57 1.39 -0.17 0.026 84.00 -15.99 -2.45 0.00 -57.64 0.00 72.66 3,839.86 1,919.35 8,585.37 3,126.62 1.08 -0.15 0.032 74.00 -16.96 -2.48 0.00 -57.64 0.00 57.64 3,654.02 1,864.99 1,842.50 5,385.13 2,666.57 1.39 -0.17 0.026 84.00 -15.00 -2.47 0.00 -2.47 0.00 -2.47 0.00 -2.47 0.00								•						
35.00 -35.79 -2.93														
35.00 34.01 -2.89 0.00 -177.83 0.00 177.83 5,658.36 2,829.18 11,130.0 5,673.30 0.26 -0.07 0.038 40.00 32.68 -2.85 0.00 -163.40 0.00 163.40 5,481.38 2,740.69 10,441.2 5,228.37 0.34 -0.08 0.037 43.83 -31.96 -2.83 0.00 -152.49 0.00 152.49 5,345.87 2,672.94 9,928.68 4,971.72 0.41 -0.09 0.037 45.00 -28.96 -2.73 0.00 -149.18 0.00 149.18 5,304.39 2,652.20 9,774.36 4,894.45 0.44 -0.09 0.036 50.00 -28.85 -2.73 0.00 -135.51 0.00 135.51 5,127.41 2,563.70 9,129.52 4,571.55 0.54 -0.11 0.035 50.17 -27.43 -2.69 0.00 -135.03 0.00 135.53 4,560.16 2,280.08 8,298.22 4,155.28 0.55 -0.11 0.035 50.17 -27.43 -2.66 0.00 -122.04 0.00 122.04 4,428.33 2,214.17 7,792.67 3,902.12 0.66 -0.12 0.037 59.00 -25.24 -2.64 0.00 -111.38 0.00 111.38 4,304.44 2,152.27 7,360.60 3,685.77 0.76 -0.13 0.036 60.00 -24.13 -2.62 0.00 -108.74 0.00 182.04 4,4273.47 2,136.74 7,254.51 3,632.65 0.79 -0.13 0.036 64.00 -23.11 -2.59 0.00 -98.28 0.00 98.28 4,149.52 2,074.79 6,837.85 3,424.01 0.90 -0.14 0.034 65.00 -22.03 -2.56 0.00 -95.68 0.00 95.68 4,118.61 2,059.30 6,735.61 3,372.81 0.93 -0.14 0.034 69.00 -21.02 -2.56 0.00 85.38 0.00 85.38 3,994.72 1,997.36 6,334.35 3,171.88 1.05 -0.15 0.032 74.00 -18.97 -2.54 0.00 82.83 0.00 82.83 3,993.75 1,981.87 6,235.59 7,122.62 1.08 -0.15 0.032 74.00 -18.97 -2.55 0.00 -72.66 0.00 72.66 3,839.86 1,919.93 5,850.11 2,929.41 1.21 -0.16 0.030 75.00 -15.99 -2.45 0.00 -57.64 0.00 70.14 3,808.89 1,994.99 5,850.11 2,992.94 1 1.21 -0.16 0.039 8.00 -15.99 -2.45 0.00 -57.64 0.00 70.14 3,808.89 1,994.99 5,850.11 2,992.94 1 1.21 -0.16 0.039 8.00 -15.99 -2.45 0.00 -57.64 0.00 70.14 3,808.89 1,904.94 5,955.58 2,882.07 1.25 -0.16 0.029 79.00 -16.96 -2.48 0.00 -50.12 0.00 60.12 3,684.99 1,842.50 5,385.13 2,996.57 1.39 -0.17 0.027 80.00 -15.99 -2.45 0.00 -57.64 0.00 57.64 3,654.02 1,627.01 5,294.44 2,651.16 1.43 -0.17 0.026 84.00 -15.00 -2.42 0.00 -47.82 0.00 47.82 0.00 47.82 3,350.13 1,765.07 4,939.39 2,473.37 1.58 0.18 0.024 85.00 1.10 0.00 -10.00 0.00 -33.58 0.00 33.58 3,344.30 1,672.15 4,429.93 2,218.26 1.81 -0.19 0.019 90.00 -1.1.71 -2.22														
40.00 -32.68 -2.85														
45.83 -31.96 -2.83 0.00 -152.49 0.00 152.49 5,345.87 2,672.94 9,928.68 4,971.72 0.41 -0.09 0.037 45.00 -28.95 -2.73 0.00 -149.18 0.00 149.18 5,304.39 2,652.20 9,774.36 4,894.45 0.44 -0.09 0.036 50.00 -28.85 -2.73 0.00 -135.51 0.00 135.51 5,127.41 2,563.70 9,129.52 4,571.55 0.54 -0.11 0.035 50.07 -27.43 -2.69 0.00 -135.03 0.00 135.03 4,560.16 2,280.08 8,298.22 4,155.28 0.55 -0.11 0.039 55.00 -26.27 -2.66 0.00 -122.04 0.00 122.04 4,28.33 2,214.17 7,792.67 3,902.12 0.66 -0.12 0.037 59.00 -25.24 -2.64 0.00 -111.38 0.00 111.38 4,304.44 2,152.22 7,360.60 3,685.77 0,76 -0.13 0.036 60.00 -24.13 -2.62 0.00 -108.74 0.00 108.74 4,273.47 2,136.74 7,254.51 3,632.65 0.79 -0.13 0.036 64.00 -23.11 -2.59 0.00 -98.28 0.00 98.28 4,149.58 2,074.79 6,837.85 3,424.01 0.90 -0.14 0.034 65.00 -22.03 -2.58 0.00 -95.68 0.00 95.68 4,118.61 2,059.30 6,735.61 3,372.81 0.93 -0.14 0.034 69.00 -21.02 -2.56 0.00 -88.38 0.00 85.88 3,994.72 1,997.36 6,334.35 3,171.88 1.05 -0.15 0.032 74.00 -19.97 -2.55 0.00 -72.66 0.00 72.66 3,839.86 1,919.35 5,850.11 2,929.41 1.21 -0.16 0.030 75.00 -17.95 -2.50 0.00 -70.14 0.00 70.14 3,808.88 1,904.44 5,755.58 2,882.07 1.25 -0.16 0.029 79.00 -15.99 -2.45 0.00 -60.12 0.00 60.12 3,684.99 1,842.50 5,385.01 2,929.41 1.21 -0.16 0.030 80.00 -15.00 -2.42 0.00 -47.82 0.00 45.40 0.00 45.40 3,499.16 1,749.58 4,852.55 2,429.89 1.61 -0.18 0.024 85.00 -13.05 -2.32 0.00 -35.59 0.00 35.59 0.00 35.59 0.375.1 1,745.01 1,749.58 4,852.55 2,429.89 1.61 -0.18 0.024 85.00 -13.05 -2.32 0.00 -35.59 0.00 35.59 0.00 35.59 0.00 33.58 0.00 45.40 0.00 45.40 3,499.16 1,749.58 4,852.55 2,429.89 1.61 -0.18 0.024 85.00 -10.18 -2.37 0.00 -22.58 0.00 23.97 0.00 23.97 1,746.03 873.02 2,259.81 1.77 0.19 0.020 89.66 -13.05 -2.32 0.00 -34.37 0.00 34.37 3,354.86 1,677.43 4,458.15 2,232.39 1.80 -0.19 0.019 94.00 -10.17 5 -2.13 0.00 -22.58 0.00 22.58 0.00 22.58 1,738.93 869.46 2,258.06 1,130.71 2.02 -0.20 0.026 99.00 -9.29 -1.95 0.00 -14.32 0.00 12.37 1,683.10 84.38 1,722 1,160.07 1,059.61 2.19 -0.21 0.010 10.00 -0.00 -0.00 -0.00 0.00 0.0														
45.00 -28.96 -2.73 0.00 -149.18 5,304.39 2,652.20 9,774.36 4,894.45 0.44 -0.09 0.036 50.00 -28.85 -2.73 0.00 -135.51 0.00 135.51 5,127.41 2,563.70 9,129.52 4,571.55 0.55 -0.11 0.035 50.07 -26.27 -2.66 0.00 -122.04 0.00 122.04 4,428.33 2,214.17 7,792.67 3,902.12 0.66 -0.12 0.037 59.00 -25.24 -2.64 0.00 -111.38 0.00 111.38 4,304.44 2,152.22 7,306.06 0,66 -0.12 0.037 60.00 -24.13 -2.62 0.00 -108.74 0.00 111.38 4,304.82 2,736.06 0.66 0.013 0.036 64.00 -23.11 -2.59 0.00 -98.28 0.00 98.28 4,149.58 2,074.79 6,837.85 3,424.01 0.90 -0.14 0.034 65.00 -2								•	,	,	,			
50.17 -27.43 -2.69 0.00 -135.03 0.00 135.03 4,560.16 2,280.08 8,298.22 4,155.28 0.55 -0.11 0.039 55.00 -26.27 -2.66 0.00 -122.04 0.00 122.04 4,428.33 2,214.17 7,792.67 3,902.12 0.66 -0.12 0.037 59.00 -24.13 -2.62 0.00 -108.74 0.00 108.74 4,273.47 2,136.74 7,254.51 3,632.65 0.79 -0.13 0.036 64.00 -23.11 -2.59 0.00 -98.28 0.00 95.68 4,149.58 2,074.79 6,837.85 3,424.01 0.90 -0.14 0.034 69.00 -21.02 -2.56 0.00 -85.38 0.00 85.38 3,994.72 1,997.36 6,334.35 3,711.88 1.05 -0.15 0.032 74.00 -18.97 -2.54 0.00 -82.83 0.00 82.83 3,963.75 1,981.87 6,235.97 3,122.60								-,	, -	-,	, -			
55.00 -26.27 -2.66 0.00 -122.04 0.00 122.04 4,428.33 2,214.17 7,792.67 3,902.12 0.66 -0.12 0.037 59.00 -25.24 -2.64 0.00 -118.74 0.00 118.74 0.00 118.74 0.00 118.74 0.00 108.74 4,273.47 2,136.74 7,254.51 3,632.65 0.79 -0.13 0.036 64.00 -23.11 -2.59 0.00 -98.28 0.00 98.28 4,149.58 2,074.79 6,837.85 3,424.01 0.90 -0.14 0.034 65.00 -22.03 -2.58 0.00 -95.68 0.00 85.38 3,94.72 1,997.36 6,334.35 3,171.88 1.05 -0.15 0.032 70.00 -19.97 -2.54 0.00 -82.83 0.00 82.83 3,963.75 1,981.87 6,235.97 3,122.62 1.08 -0.15 0.032 74.00 -18.97 -2.52 0.00 -70.14 0.00 </td <td>50.00</td> <td>-28.85</td> <td>-2.73</td> <td>0.00</td> <td>-135.51</td> <td>0.00</td> <td>135.51</td> <td>5,127.41</td> <td>2,563.70</td> <td>9,129.52</td> <td>4,571.55</td> <td>0.54</td> <td>-0.11</td> <td>0.035</td>	50.00	-28.85	-2.73	0.00	-135.51	0.00	135.51	5,127.41	2,563.70	9,129.52	4,571.55	0.54	-0.11	0.035
59.00 -25.24 -2.64 0.00 -111.38 0.00 111.38 4,304.44 2,152.22 7,360.60 3,685.77 0.76 -0.13 0.036 64.00 -24.13 -2.62 0.00 -108.74 0.00 108.74 4,273.47 2,136.74 7,254.51 3,632.65 0.79 -0.13 0.036 65.00 -22.03 -2.58 0.00 -95.68 0.00 95.68 4,149.58 2,074.79 6,837.85 3,424.01 0.90 -0.14 0.034 69.00 -21.02 -2.56 0.00 -85.38 0.00 85.38 3,994.72 1,997.36 6,334.35 3,171.88 1.05 -0.15 0.032 74.00 -18.97 -2.52 0.00 -72.66 0.00 72.66 0.00 72.66 1.03 3,839.86 1,919.33 5,850.11 2,929.41 1.21 -0.16 0.032 75.00 -17.95 -2.50 0.00 -70.14 0.00 70.14 3,808.88 1,904	50.17	-27.43	-2.69	0.00	-135.03	0.00	135.03	4,560.16	2,280.08	8,298.22	4,155.28	0.55	-0.11	0.039
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109.00 -0.09 -0.02 0.00 -0.02 0.00 0.02 1,575.88 787.94 1,772.05 887.34 2.63 -0.21 0.000 110.00 0.00 0.00 0.00 0.00 0.								,					-	
109.00 -0.09 -0.02 0.00 -0.02 0.00 0.02 1,575.88 787.94 1,772.05 887.34 2.63 -0.21 0.000 110.00 0.00 0.00 0.00 0.00 0.	105.00	-4.95	-1.25	0.00	-5.01	0.00	5.01	1,624.61	812.30	1,907.63	955.23	2.45	-0.21	0.008
entre de la companya		-0.09	-0.02	0.00	-0.02				787.94	1,772.05	887.34		-0.21	
111.00 0.00 0.00 0.00 0.00 0.00 1,550.88 775.44 1,705.38 853.95 2.71 -0.21 0.000														
	111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,550.88	775.44	1,705.38	853.95	2.71	-0.21	0.000

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer: AT&T MOBILITY

<u>Load Case</u> (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect I (in)	Rotation (deg)	Ratio
		2.45	0.00				6 600 04	2 200 42	• • •	• • •		0.00	0.044
0.00 5.00	-33.07 -31.62	-3.15 -3.13	0.00 0.00	-283.46 -267.69	0.00 0.00	283.46 267.69			15,856.1 15,168.0		0.00 0.01	0.00 -0.01	0.041 0.040
10.00	-31.02	-3.13	0.00	-252.05	0.00	252.05			14.488.6		0.01	-0.01	0.040
15.00	-28.82	-3.06	0.00	-236.58	0.00	236.58	-,	-,	13,818.4	,	0.02	-0.02	0.039
20.00	-27.48	-3.01	0.00	-221.31	0.00	221.31	•	•	13,157.9	•	0.08	-0.04	0.038
25.00	-26.17	-2.97	0.00	-206.23	0.00	206.23	,	,	12,507.5	,	0.13	-0.05	0.037
30.00	-24.89	-2.92	0.00	-191.39	0.00	191.39			11,840.9		0.19	-0.06	0.037
35.00	-23.65	-2.87	0.00	-176.78	0.00	176.78	•	•	11,130.0	•	0.26	-0.07	0.036
40.00	-22.73	-2.83	0.00	-162.42	0.00	162.42			10,441.2		0.34	-0.08	0.035
43.83	-22.23	-2.81	0.00	-151.57	0.00	151.57	5,345.87	2,672.94	9,928.68	4,971.72	0.41	-0.09	0.035
45.00	-20.14	-2.72	0.00	-148.27	0.00	148.27			9,774.36		0.43	-0.09	0.034
50.00	-20.06	-2.72	0.00	-134.68	0.00	134.68	•	•	9,129.52	•	0.54	-0.11	0.033
50.17	-19.07	-2.68	0.00	-134.21	0.00	134.21	,	,	8,298.22	,	0.54	-0.11	0.036
55.00	-18.27	-2.65	0.00	-121.30	0.00	121.30			7,792.67		0.66	-0.12	0.035
59.00	-17.55	-2.62	0.00	-110.71	0.00	110.71			7,360.60		0.76	-0.13	0.034
60.00	-16.78	-2.60	0.00	-108.08	0.00	108.08	,	,	7,254.51	,	0.78	-0.13	0.034
64.00	-16.07	-2.58	0.00	-97.69	0.00	97.69			6,837.85		0.90	-0.14	0.032
65.00	-15.32	-2.56	0.00	-95.12	0.00	95.12	•	•	6,735.61	•	0.92	-0.14	0.032
69.00	-14.61	-2.54	0.00	-84.88	0.00	84.88			6,334.35		1.05	-0.15	0.030
70.00 74.00	-13.88 -13.19	-2.52 -2.51	0.00 0.00	-82.34 -72.25	0.00 0.00	82.34 72.25			6,235.97		1.08 1.21	-0.15 -0.16	0.030 0.028
74.00 75.00	-13.19	-2.49	0.00	-72.23 -69.74	0.00	69.74	•	•	5,850.11 5,755.58	•	1.21	-0.16 -0.16	0.028
79.00 79.00	-12.46	-2.49 -2.47	0.00	-59.74	0.00	59.74 59.79	,	,	5.385.13	,	1.24	-0.16 -0.17	0.027
80.00	-11.79	-2.4 <i>1</i> -2.44	0.00	-59.79 -57.32	0.00	57.32			5,294.44		1.42	-0.17 -0.17	0.025
84.00	-10.43	-2.40	0.00	-47.56	0.00	47.56			4,939.39		1.57	-0.17 -0.18	0.023
85.00	-9.78	-2.36	0.00	-45.16	0.00	45.16			4,852.56		1.60	-0.18	0.021
89.00	-9.15	-2.31	0.00	-35.71	0.00	35.71	,	,	4,512.92	,	1.76	-0.19	0.019
89.66	-9.07	-2.30	0.00	-34.19	0.00	34.19			4,458.15		1.79	-0.19	0.018
90.00	-8.14	-2.20	0.00	-33.40	0.00	33.40			4,429.93		1.80	-0.19	0.017
94.00	-7.54	-2.13	0.00	-24.59	0.00	24.59			4,105.69		1.96	-0.20	0.014
94.35	-7.48	-2.12	0.00	-23.85	0.00	23.85	1,746.03	873.02	2,281.47	1,142.43	1.98	-0.20	0.025
95.00	-7.07	-2.05	0.00	-22.47	0.00	22.47	1,738.93	869.46	2,258.06	1,130.71	2.00	-0.20	0.024
99.00	-6.46	-1.94	0.00	-14.25	0.00	14.25	1,694.48	847.24	2,116.07	1,059.61	2.17	-0.20	0.017
100.00	-4.33	-1.50	0.00	-12.31	0.00	12.31	1,683.10		2,080.94	1,042.02	2.22	-0.21	0.014
104.00	-3.74	-1.34	0.00	-6.33		6.33	1,636.52		1,941.96	972.42	2.39	-0.21	0.009
105.00	-3.44	-1.24	0.00	-4.99		4.99	1,624.61		1,907.63	955.23	2.43	-0.21	0.007
109.00	-0.06	-0.02	0.00	-0.02		0.02	1,575.88		1,772.05	887.34	2.61	-0.21	0.000
110.00	0.00	0.00	0.00	0.00		0.00	1,563.44		1,738.62	870.60	2.66	-0.21	0.000
111.00	0.00	0.00	0.00	0.00	0.00	0.00	1,550.88	115.44	1,705.38	853.95	2.70	-0.21	0.000

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer: AT&T MOBILITY

Analysis Summary

					Max Usage			
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev [[] (ft)	nteraction Ratio
1.2D + 1.6W	50.84	0.00	47.95	0.00	0.00	4369.53	0.00	0.56
0.9D + 1.6W	50.82	0.00	35.94	0.00	0.00	4353.36	0.00	0.55
1.2D + 1.0Di + 1.0Wi	15.40	0.00	83.60	0.00	0.00	1325.00	0.00	0.18
(1.2 + 0.2Sds) * DL + E ELFM	3.10	0.00	47.55	0.00	0.00	257.81	0.00	0.04
(1.2 + 0.2Sds) * DL + E EMAM	3.15	0.00	47.55	0.00	0.00	284.78	0.00	0.04
(0.9 - 0.2Sds) * DL + E ELFM	3.10	0.00	33.07	0.00	0.00	256.70	0.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	3.15	0.00	33.07	0.00	0.00	283.46	0.00	0.04
1.0D + 1.0W	12.15	0.00	40.01	0.00	0.00	1042.62	0.00	0.14

Site Name: Farmington North 2 CT, CT Engineering Number: OAA718005_C3_01 12/5/2017 1:14:23 PM

Customer: AT&T MOBILITY

Base Summary

Reactions

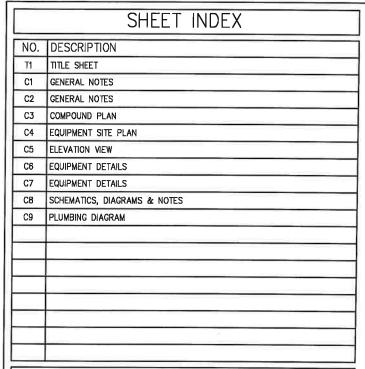
Original Design			-	Analysis '		
Momer	nt Axial	Shear	Moment	Axial	Shear	Moment
(kip-ft) (kip)	(kip)	(kip-ft)	(kip)	(kip)	Design %
6,395.5	50 48.80	68.90	4,369.53	83.60	50.84	50.61

Base Plate

Yield	Thick	Width		Poly	Clip Len	Effective	Mu	Phi Mn		
(ksi)	(in)	(in)	Style	Sides	(in)	Len (in)	(kip-in)	(kip-in)	Ratio	
50.0	2 000	72 000	Pound	0	0.00	0.363	261.00	048 00	0.38	

Anchor Bolts

								Start	<u> —</u> со	mpression	on 		Tension	
Bolt	Num		Bolt	Yield	Ultimate		Cluster	Angle	Force	Allow		Force	Allow	
Circle	Bolts	Bolt Type	Dia (in)	(ksi)	(ksi)	Arrange	Dist (in)	(deg)	(kip)	(kip)	Ratio	(kip)	(kip)	Ratio
67.00	20	2.25" 18J	2.25	75.00	100.00	Radial	0.00	0.0	160.70	260.00	0.64	152.34	260.00	0.61



DRIVING DIRECTIONS

- LEAVE MAXIM RD TOWARDS BRAINARD RD
- ROAD NAME CHANGES TO BRAINARD RD
- TAKE SLIPROAD RIGHT TO US-5 N/CT-15 N SHELL ON THE CORNER
- TAKE SLIPROAD RIGHT TO I-91 NORTH TOWARDS HARTFORD/SPRINGFIELD TAKE SLIPROAD LEFT TO I-84 WEST TOWARDS WATERBURY

New Hartford

Garrett

Mountair

Terryville

ngton

winton

- PASS RADISSON ON THE RIGHT IN
- AT JUNCTION 39, TAKE SLIPROAD RIGHT TO CT-4 TOWARDS FARMINGTON

LOCATION MAP

Simsbury

West Hartford

New Britain

Berlin

Kensington 9

Canton

Farmington

Southington

Burlington SITE

Bristol

Tariffville

Bloomfield

Blue Hills

Newington

Hartford

20 East Windsor

South W

Glastonbury

Rocky Hill

Windsor

- KEEP STRAIGHT ON TO CT-4 W/FARMINGTON AVE
- BEAR RIGHT ON TO CT-10/WATERVILLE RD
- 10. TURN LEFT ON TO OLD FARMS KU
 11. ARRIVE AT TOWN FARM ROAD ON THE LEFT.



SITE NAME

FARMINGTON

PROJECT

LTE 2C/3C

SITE ID

CT2580

FA SITE NUMBER

10141396

PACE ID

MRCTB024366/MRCTB024541

SITE ADDRESS

199 TOWN FARM ROAD FARMINGTON, CT 06032

STRUCTURE TYPE

PROJECT TEAM

MONOPOLE TOWER



TO OBTAIN LOCATION OF PARTICIPANTS
UNDERGROUND FACILITIES BEFORE
YOU DIG IN CONNECTICUT, CONTACT
CALL BEFORE YOU DIG TOLL FREE: 1-800-922-4455 OR

connecticut statute Requires Min of 2 working days notice Before you dig. Know what's below.



95 Ryan Drive Suite 1 | Raynham, MA 02767 Office: 781.713.4725 - Fax: 413-541-8158 PROJECT MANAGER

INFINIGY8

ENGINEER

SCOPE OF WORK:

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND
- ADD GROUND ISOLATION WHERE NEEDED.
- MONOPINE-ANTENNAS AND RADIOS PAINTED TO MATCH

TOWER SCOPE

- REMOVE (3) PANEL ANTENNAS
- INSTALL (3) PANEL ANTENNAS
- INSTALL (3) RRUS-32
- INSTALL (3) RRUS-32 B2
- INSTALL (1) DC6 SQUID W/ (1) FIBER, (2) DC CABLES & (1) ALARM CABLE

- INSTALL (1) FIBER BOX ON ICE BRIDGE POST
- INSTALL (1) FIBER TRAY IN LTE RACK
- INSTALL (1) DC12 IN LTE RACK
- SWAP DUL TO 5216
- ADD (1) XMU
- INSTALL (6) 30AMP AND (10) 25AMP BREAKER IN EXISTING POWERPLANT

PROJECT SUMMARY

SITE NAME:

FARMINGTON 10141396

FA SITE NO .:

PACE ID:

MRCTB024366/MRCTB024541

SITE ID:

SITE ADDRESS: 199 TOWN FARM ROAD FARMINGTON, CT 06032

COUNTY: HARTFORD

SITE COORDINATES:

JURISDICTION:

LATITUDE: 41.7673000* LONGITUDE: -72.8388000° GROUND ELEVATION: ±320'

(NAD 83) (NAD 83) (AMSIA)

ANTENNA RAD: ±100'

PROPERTY OWNER:

AMERICAN TOWER CORP 10 PRESIDENTIAL WAY

HARTFORD COUNTY

WOBURN, MA

APPLICANT: AT&T MOBILITY 550 COCHITUATE ROAD FARMINGHAM, MA 01701

PROJECT MANAGER:

CENTERLINE 95 RYAN DRIVE SUITE 1 RAYNHAM, MA 02767

CONTACT: PETER LAMONTAGNE (508) 341-7854

ENGINEER: INFINIGY

> 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205

CONTACT: ALEX WELLER (518) 690-0790

BUILDING CODE: CT BUILDING CODE

UNIFORM BUILDING CODE BUILDING OFFICIALS & CODE ADMINISTRATORS

UNIFORM MECHANICAL CODE UNIFORM PLUMBING CODE LOCAL BUILDING CODE CITY/COUNTY ORDINANCES

ELECTRICAL CODE:

NATIONAL ELECTRICAL CODE (LATEST EDITION)

ENGINEER'S LICENSE

CERTIFICATION STATEMENT:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF CONNECTICUT.

LICENSED ENGINEER - STATE OF CONNECTICUT

APPROVALS

	DATE	
	DATE	
	DATE	
NAME/COMPANY: TITLE:	DATE	
		DATE DATE NAME/COMPANY: DATE

INFINIGY



555-022 FA# 10141396 CT2580 FARMINGTON

Designed: ASW Date: 12/14/17

ecked: ASW Date: 12/14/17

199 TOWN FARM ROAD FARMINGTON, CT 08032

CENTERLINE

Drawing Scale AS NOTED

02/06/18 wing Title

TITLE SHEET

wing Number

T1

FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:

GENERAL CONTRACTOR SUBCONTRACTOR - CONTRACTOR (CONSTRUCTION)

OWNER - AT&T ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.

GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES, GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.

ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.

UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS

PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ARCHIETCT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK, DETAILS ARE INTENDED TO SHOW DESIGN INTENT, MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH WORK.

THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS. THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE SPACE FOR APPROVAL BY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING.

10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS AND THE LOCAL

GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINE.

ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE, ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.

SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. SUBCONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.

14. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES, SUBCONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.

SUBCONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.

16. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER

THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND SUBCONTRACTORS TO THE SITE AND/OR BUILDING.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE

COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.

THE GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A OT 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.

22. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT/ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES, SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, D) TRENCHING & EXCAVATION.

23. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK AS DIRECTED BY THE RESPONSIBLE ARCHITECT/ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.

THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION

SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL,

26. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.

ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER

ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.

SUBCONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.

SUBCONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).

OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.

NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION OF AT&T MOBILITY GROUNDING STANDARD "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING." IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.

SUBCONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION, IF SUBCONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY

SUBCONTRACTOR SHALL REMOVED ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS,

INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

NO WHITE STROBE LIGHTS ARE PERMITTED. ANY REQUIRED LIGHTING MUST MEET FAA STANDARDS AND REQUIREMENTS.

ALL COAXIAL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

NO SIGNIFICANT NOISE, SMOKE, DUST OR VIBRATIONS WILL RESULT FROM THIS FACILITY. (DISREGARD THIS NOTE IF THIS SITE HAS A GENERATOR)

NO ADDITIONAL PARKING TO BE PROPOSED. EXISTING ACCESS AND PARKING TO REMAIN, UNLESS NOTED OTHERWISE. NO LANDSCAPING IS PROPOSED AT THIS SITE, UNLESS NOTED OTHERWISE.

ELECTRICAL NOTES:

ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ANY/ALL ELECTRICAL WORK INDICATED. ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWINGS AND ANY/ALL APPLICABLE SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY 'CONSTRUCTION MANAGER' AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE 'CONSTRUCTION MANAGER' HAS DIRECTED THE CORRECTIVE ACTIONS TO BE TAKEN.

ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. ALL EXISTING CONDITIONS OF ELECTRICAL EQUIP., LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR, PRIOR TO THE SUBMITTING OF HIS BID. FAILURE TO COMPLY WITH THIS PARAGRAPH WILL IN NO WAY RELIEVE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL CODES AND LOCAL ORDINANCES OF THE LOCAL POWER & TELEPHONE COMPANIES HAVING JURISDICTION AND SHALL INCLUDE BUT NOT BE LIMITED TO:

NATIONAL FIRE CODES.

UL - UNDERWRITERS LABORATORIES

NEC - NATIONAL ELECTRICAL CODE

NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOC.

OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT

SBC - STANDARD BUILDING CODE

DO NOT SCALE ELECTRICAL DRAWINGS; REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, AND CONFIRM WITH CONSTRUCTION MANAGER' ANY SIZES AND LOCATIONS WHEN NEEDED.

EXISTING SERVICES: CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.

CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS, AND TESTING. CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK BEGINNING OR ORDERING EQUIPMENT. THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND

CONTRACTOR SHALL CONFIRM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS, SUCH AS THE: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS' CONFIRMATION, ETC ... ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY

MINIMUM WIRE SIZE SHALL BE #12 AWG, NOT INCLUDING CONTROL WIRING. UNLESS NOTED OTHERWISE. ALL CONDUCTORS SHALL BE COPPER WITH THWN INSULATION.

OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.

IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION. CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER

ELECTRICAL SYSTEM SHALL BE AS COMPLETELY AND EFFECTIVELY GROUNDED, AS REQUIRED BY SPECIFICATIONS, SET FORTY BY AT&T.

ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND SUBJECT TO REGULATORY INSPECTION & APPROVAL BY CONSTRUCTION MANAGER.

ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.

CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE

THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OR THE REPAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.

ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK

PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND DEVICES FOR ALL OUTLETS AS INDICATED.

DITCHING AND BACK FILL: CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION, BACKFILLING AND COMPACTION. REFER TO 'FOUNDATION, EXCAVATION, AND BACKFILLING NOTES.'

MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF U.L. APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEC, NEMA, AND IECE.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURERS CATALOG INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES, AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR WORK AND PERFORMED TO THE SATISFACTION OF THE 'CONSTRUCTION MANAGER' UPON FINAL ACCEPTANCE.

THE ELECTRICAL CONTRACTOR SHALL LABEL AL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES, ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, QUICK-MADE

AND QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.

ALL CONNECTIONS SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND SUCH AS "NO-OXIDE A" BY DEARBORNE CHEMICAL CO. COAT ALL WIRE SURFACES BEFORE CONNECTING. EXPOSED COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED - NO SUBSTITUTIONS.

RACEWAYS: CONDUIT SHALL BE SCHEDULE 40 PVC MEETING OR EXCEEDING NEMA TC2 - 1990. CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LBS TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 2 FT. RADIUS. RGS CONDUITS WHEN SPECIFIED. SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADING RIGID CONDUIT. COAT ALL THREADS WITH 'BRITE ZINC' OR 'GOLD CALV.'

SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC. CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER WITH TYPE THWN INSULATION, 800 VOLT, COLOR CODED. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING NO. 8 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE NO. 8 AWG.

CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER, USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8

SERVICES: 240/120V, SINGLE PHASE, 3 WIRE CONNECTION AVAILABLE FROM UTILITY COMPANY. OWNER OR OWNERS AGENT WILL APPLY FOR 31. TELEPHONE SERVICE: CONTRACTOR SHALL PROVIDE EMPTY CONDUITS WITH PULL STRINGS AS INDICATED ON DRAWINGS.

ELECTRICAL AND TELCO RACEWAYS TO BE BURIED A MINIMUM OF 2'

33. CONTRACTOR SHALL PLACE TWO LENGTHS OF WARNING TAPE AT A DEPTH OF 12" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL AND TELCO SERVICE CONDUITS. CAUTION TAPE TO READ "CAUTION BURIED ELECTRIC" OR "BURIED TELECOMM."

34. ALL BOLTS SHALL BE STAINLESS STEEL

GROUNDING NOTES:

COMPRESSION CONNECTIONS (2), 2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUNDING BAR. ROUTE CONDUCTORS TO BURIED GROUNDING RING AND PROVIDE PARALLEL EXOTHERMIC WELD.

EC SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P," "A," "N," "I") WITH 1" LETTERS.

ALL HARDWARE 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8 INCH DIAMETER OR LARGER FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER

BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXDAN COMPOUND BEFORE MATING. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE

GROUNDING BAR AND BOLTED ON THE BACK SIDE. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF

TOWER, ANTENNA LOCATION, AND CONNECTION ORIENTATION. PROVIDE AS WHEN THE SCOPE OF WORK REQUIRES THE ADDITION OF A GROUNDING

BAR TO AN EXISTING TOWER, THE SUBCONTRACTOR SHALL OBTAIN APPROVAL FROM THE TOWER OWNER PRIOR TO MOUNTING THE GROUNDING BAR TO THE TOWER.

ALL ELECTRICAL AND GROUNDING AT THE CELL SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER

FOUNDATION, EXCAVATION, & BACKFILL NOTES:

ALL FINAL GRADED SLOPES SHALL BE A MAXIMUM OF 3 HORIZONTAL TO VERTICAL

ALL EXCAVATIONS PREPARED FOR PLACEMENT OF CONCRETE SHALL BE OF UNDISTURBED SOILS, SUBSTANTIALLY HORIZONTAL, AND FREE FROM ANY LOOSE, UNSUITABLE MATERIAL OR FROZEN SOILS, AND WITHOUT THE PRESENCE OF POUNDING WATER. DEWATERING FOR EXCESS GROUND WATER SHALL BE PROVIDED WHEN REQUIRED. COMPACTION OF SOILS UNDER CONCRETE PAD FOUNDATIONS SHALL NOT BE LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR THE SOIL IN ACCORDANCE WITH ASTM D1557.

CONCRETE FOUNDATIONS SHALL NOT BE PLACED ON ORGANIC OR UNSUITABLE MATERIAL. IF INADEQUATE BEARING CAPACITY IS REACHED AT THE DESIGNED EXCAVATION DEPTH, THE UNSATISFACTORY SOIL SHALL BE EXCAVATED TO ITS FULL DEPTH AND EITHER BE REPLACED WITH MECHANICALLY COMPACTED GRANULAR MATERIAL OR THE EXCAVATION SHALL BE FILLED WITH CONCRETE OF THE SAME TYPE SPECIFIED FOR THE FOUNDATION. CRUSHED STONE MAY BE USED TO STABILIZE THE BOTTOM OF THE EXCAVATION. ANY STONE SUB BASE MATERIAL, IF USED, SHALL NOT SUBSTITUTE FOR REQUIRED THICKNESS OF CONCRETE

ALL EXCAVATIONS SHALL BE CLEAN OF UNSUITABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS, AND SO FORTH PRIOR TO BACK FILLING. BACK FILL SHALL CONSIST OF APPROVED MATERIALS SUCH AS EARTH. LOAM, SANDY CLAY, SAND AND GRAVEL, OR SOFT SHALE, FREE FROM CLODS OR LARGE STONES OVER 2 1/2 MAX DIMENSIONS. ALL BACK FILL SHALL BE PLACED IN COMPACTED LAYERS.

ALL FILL MATERIALS AND FOUNDATION BACK FILL SHALL BE PLACED IN MAXIMUM 6" THICK LIFTS BEFORE COMPACTION. EACH LIFT SHALL BE WETTED IF REQUIRED AND COMPACTED TO NOT LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR SOIL IN ACCORDANCE WITH ASTM D1557

NEWLY PLACED CONCRETE FOUNDATIONS SHALL CURE A MINIMUM OF 72 HOURS PRIOR TO BACK FILLING.

FINISHED GRADING SHALL BE SLOPED TO PROVIDE POSITIVE DRAINAGE AND PREVENT STANDING WATER. THE FINAL (FINISH) ELEVATION OF SLAB FOUNDATIONS SHALL SLOPE AWAY IN ALL DIRECTIONS FROM THE CENTER. FINISH GRADE OF CONCRETE PADS SHALL BE A MAXIMUM OF 4 INCHES ABOVE FINAL FINISH GRADE ELEVATIONS. PROVIDE SURFACE FILL GRAVEL TO ESTABLISH SPECIFIED ELEVATIONS WHERE REQUIRED.

NEWLY GRADED SURFACE AREAS TO RECEIVE GRAVEL SHALL BE COVERED WITH GEOTEXTILE FABRIC TYPE: TYPAR-3401 AS MANUFACTURED BY "CONSTRUCTION MATERIAL 1-800-239-3841" OR AN APPROVED EQUIVALENT, SHOWN ON PLANS. THE GEOTEXTILE FABRIC SHALL BE BLACK IN COLOR TO CONTROL THE RECURRENCE OF VEGETATIVE GROWTH AND EXTEND TO WITHIN 1 FOOT OUTSIDE THE SITE FENCING OR ELECTRICAL GROUNDING SYSTEM PERIMETER WHICHEVER IS GREATER, ALL FABRIC SHALL BE COVERED WITH A MINIMUM OF 4" DEEP COMPACTED STONE OR GRAVEL AS SPECIFIED. I.E. FDOT TYPE NO.57 FOR FENCED COMPOUND; FDOT TYPE NO. 67 FOR ACCESS DRIVE AREA.

IN ALL AREAS TO RECEIVE FILL, REMOVE ALL VEGETATION, TOPSOIL DEBRIS, WET AND UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE. PLOW STRIP OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SUCH THAT FILL MATERIAL WILL BIND WITH EXISTING/PREPARED SOIL

0 FINIG

at&t

= CONA BUSERIE THE STATE OF No. 24705 CENSED NAUTHORITAL ALTERATION OF A PRINTING OF THIS DOCUMENT IN WINDS TO THE OCCUPANT OF THE OCCUPANT ISSUED FOR PERMIT BMM 02/06/ RCD Date: 12/14/17 esigned: <u>ASW</u> Date: 12/14/17 hecked: ASW Date: 12/14/17

> FA# 10141396 CT2580 **FARMINGTON**

555-022

199 TOWN FARM ROAD FARMINGTON, CT 08032

oject Title



Drawing Scale AS NOTED Date: 02/06/18

wing Title

GENERAL NOTES

wing Number

- WHEN SUBGRADE OR PREPARED GROUND SURFACE HAS A DENSITY LESS THAN THAT REQUIRED FOR THE FILL MATERIAL, SCARIFY THE GROUND SURFACE TO DEPTH REQUIRED, PULVERIZE, MOISTURE-CONDITION AND/OR AERATE THE SOILS AND RE-COMPACT TO THE REQUIRED DENSITY PRIOR TO PLACEMENT OR FILLS.
- IN AREAS WHICH EXISTING GRAVEL SURFACING IS REMOVED OR DISTURBED DURING CONSTRUCTION OPERATIONS, REPLACE GRAVEL SURFACING TO MATCH ADJACENT GRAVEL SURFACING AND RESTORED TO THE SAME THICKNESS AND COMPACTION AS SPECIFIED. ALL RESTORED GRAVEL SURFACING SHALL BE FREE FROM CORRUGATIONS AND WAVES.
- EXISTING GRAVEL SURFACING MAY BE EXCAVATED SEPARATELY AND REUSED WITH THE CONDITION THAT ANY UNFAVORABLE AMOUNTS OF ORGANIC MATTER, OR OTHER DELETERIOUS MATERIALS ARE REMOVED PRIOR TO REUSE, FURNISH ANY ADDITIONAL GRAVEL RESURFACING MATERIAL AS NEEDED TO PROVIDE A FULL DEPTH COMPACTED SURFACE THROUGHOUT
- GRAVEL SUB SURFACE SHALL BE PREPARED TO REQUIRED COMPACTION AND SUBGRADE ELEVATIONS BEFORE GRAVEL SURFACING IS PLACED AND/OR RESTORED. ANY LOOSE OR DISTURBED MATERIALS SHALL BE THOROUGHLY COMPACTED AND ANY DEPRESSIONS IN THE SUBGRADE SHALL BE FILLED AND COMPACTED WITH APPROVED SELECTED MATERIAL, GRAVEL SURFACING MATERIAL SHALL NOT BE USED FOR FILLING DEPRESSIONS IN THE SUBGRADE
- PROTECT EXISTING GRAVEL SURFACING AND SUBGRADE IN AREAS WHERE EQUIPMENT LOADS WILL OPERATE. USE PLANKING 'MATTS' OR OTHER SUITABLE PROTECTION DESIGNED TO SPREAD EQUIPMENT LOADS AS MAY BE NECESSARY. REPAIR ANY DAMAGE TO EXISTING GRAVEL SURFACING OR SUB GRADE WHERE SUCH DAMAGE IS DUE TO THE CONTRACTORS OPERATIONS
- DAMAGE TO EXISTING STRUCTURES AND/OR UTILITIES RESULTING FROM CONTRACTORS NEGLIGENCE SHALL BE REPAIRED AND/OR REPLACED TO THE OWNERS SATISFACTION AT NO ADDITIONAL COST TO THE CONTRACT
- ALL SUITABLE BORROW MATERIAL FOR BACK FILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES AT NO ADDITIONAL COST TO THE CONTRACT.

ENVIRONMENTAL NOTES:

- ALL WORK PERFORMED SHALL BE DONE IN ACCORDANCE WITH ISSUED PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF FINES AND PROPER CLEAN UP FOR AREAS IN VIOLATION.
- CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR CONSTRUCTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION FOR PROTECTION OF ADJACENT PROPERTIES, ROADWAYS AND WATERWAYS AND SHALL BE MAINTAINED IN PLACE THROUGH FINAL JURISDICTIONAL INSPECTION & RELEASE OF SITE
- CONTRACTOR SHALL INSTALL/CONSTRUCT ALL NECESSARY SEDIMENT/SILT CONTROL FENCING AND PROTECTIVE MEASURES WITHIN THE LIMITS OF SITE DISTURBANCE PRIOR TO CONSTRUCTION.
- NO SEDIMENT SHALL BE ALLOWED TO EXIT THE PROPERTY. THE CONTRACTOR IS RESPONSIBLE FOR TAKING ADEQUATE MEASURES FOR CONTROLLING EROSION. ADDITIONAL SEDIMENT CONTROL FENCING MAY BE REQUIRED IN ANY AREAS SUBJECT TO FROSION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS AND ANY REPAIRS OF ALL SEDIMENT CONTROL MEASURES INCLUDING SEDIMENT
- CLEARING OF VEGETATION AND TREE REMOVAL SHALL BE ONLY AS PERMITTED AND BE HELD TO A MINIMUM, ONLY TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED
- SEEDING AND MULCHING AND/OR SODDING OF THE SITE WILL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE PROJECT FACILITIES AFFECTING LAND DISTURBANCE
- CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, COUNTY AND STATE CODES AND ORDINANCES TO PROTECT EMBANKMENTS FROM SOIL LOSS AND TO PREVENT ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE SUCH MEASURES AS SILT FENCES, STRAW BALE SEDIMENT BARRIERS, AND CHECK
- RIP RAP OF SIZES INDICATED SHALL CONSIST OF CLEAN, HARD, SOUND, DURABLE, UNIFORM IN QUALITY STONE FREE OF ANY DETRIMENTAL QUANTITY OF SOFT, FRIABLE, THIN, ELONGATED OR LAMINATED PIECES, DISINTEGRATED MATERIAL, ORGANIC MATTER, OIL, ALKALI, OR OTHER DELETERIOUS SUBSTANCES.

CONCRETE MASONRY NOTES:

- CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM C90, GRADE N-1, (F'M=1,500 PSI). MEDIUM WEIGHT (115).
- MORTAR SHALL BE TYPE "S" (MINIMUM 1,800 PSI AT 28 DAYS). GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS
- ALL CELLS CONTAINING REINFORCING STEEL OR EMBEDDED ITEMS AND ALL CELLS IN RETAINING WALLS AND WALLS BELOW GRADE SHALL BE SOLID GROUTED.
- ALL HORIZONTAL REINFORCING STEEL SHALL BE PLACED IN BOND BEAM OR LINTEL BEAM UNITS.
- WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1-1/2" BELOW TOP OF THE UPPERMOST UNIT.
- ALL BOND BEAM BLOCK SHALL BE "DEEP CUT" UNITS.
- PROVIDE INSPECTION AND CLEAN-OUT HOLES AT BASE OF VERTICAL CELLS HAVING GROUT LIFTS IN EXCESS OF 4'-0" OF HEIGHT.
- ALL GROUT SHALL BE CONSOLIDATED WITH A MECHANICAL VIBRATOR
- CEMENT SHALL BE AS SPECIFIED FOR CONCRETE.
- REINFORCING BARS SEE NOTES UNDER "REINFORCING STEEL" FOR REQUIREMENTS.

- PROVIDE ONE BAR DIAMETER (A MINIMUM OF 1/2") GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS.
- LOW LIFT CONSTRUCTION, MAXIMUM GROUT POUR HEIGHT IS 4 FEET LIFT GROUTED CONSTRUCTION MAY BE USED IN CONFORMANCE WITH
- PROJECT SPECIFICATIONS AND SECTION 2104.6.1 OF CURRENT BUILDING
- ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH GROUT. EXCEPT AS NOTED IN THE DRAWINGS OR SPECIFICATIONS. CELLS SHALL BE IN VERTICAL ALIGNMENT, DOWELS IN FOOTINGS SHALL BE
- SET TO ALIGN WITH CORES CONTAINING REINFORCING STEFT REFER TO ARCHITECTURAL DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN AND JOINT TYPE.
- SAND SHALL BE CLEAN, SHARP AND WELL GRADED, FREE FROM INJURIOUS AMOUNTS OF DUST, LUMPS, SHALE, ALKAU OR ORGANIC
- 38. BRICK SHALL CONFORM TO ASTM C-62 AND SHALL BE GRADE MW OR

STRUCTURAL CONCRETE NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI-301-10 ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH fc'=2.500 PSI AT 28 DAYS UNLESS NOTED OTHERWISE
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60. DEFORMED UNLESS NOTED OTHERWISE, WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH CONCRETE EXPOSED TO EARTH OR WEATHER:

#6 AND LARGER 2 IN. #5 AND SMALLER & WWF 1-1/2 IN

CONCRETE NOT EXPOSED TO EARTH OR WEATHER, NOR CAST AGAINST THE GROUND:

SLAB AND WALL BEAMS AND COLUMNS

1-1/2 IN

- A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE U.N.O. IN ACCORDANCE WITH ACI 301 SECTION 4.2.4,
- HOLES TO RECEIVE EXPANSION/WEDGE ANCHORS SHALL BE 1/8" LARGER IN DIAMETER THAN THE ANCHOR BOLD, DOWEL OR ROD AND SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. LOCATE AND AVOID CUTTING EXISTING REBAR WHEN DRILLING HOLES IN ELEVATED CONCRETE SLABS.
- USE AND INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR. SHALL BE PER ICBO & MANUFACTURER'S WRITTEN RECOMMENDED

STRUCTURAL STEEL NOTES:

- ALL STEEL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. STEEL SECTIONS SHALL BE IN ACCORDANCE WITH ASTM AS INDICATED BELOW: W-SHAPES: ASTM A992, 50 KSI ANGLES, BARS CHANNELS: ASTM A36, 36 KSI HSS SECTIONS: ASTM 500, 46 KSI
- PIPE SECTIONS: ASTM A53-E, 35 KSI ALL EXTERIOR EXPOSED STEEL AND HARDWARE SHALL BE HOT DIPPED GALVANIZED.
- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION." PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE 3/4" Ø CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" Ø ASTM A307 BOLTS UNLESS NOTED OTHERWISE.
- FIELD MODIFICATIONS ARE TO BE COATED WITH ZINC ENRICHED PAINT.

SITE WORK & DRAINAGE:

PART 1 - GENERAL

STRIPPING, EROSION CONTROL, SURVEY, LAYOUT. SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED WORK SHOWN IN THESE PLANS.

- A. DOT (STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR WAY CONSTRUCTION - CURRENT EDITION)
- B. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
- C. OSHA (OCCUPATION SAFETY AND HEALTH ADMINISTRATION)

1.2 INSPECTION AND TESTING:

A. FIELD TESTING OF EARTHWORK COMPACTION AND CONCRETE CYLINDERS B. ALL WORK SHALL BE INSPECTED AND RELEASED BY THE GENERAL CONTRACTOR WHO SHALL CARRY OUT THE GENERAL INSPECTION OF THE WORK WITH SPECIFIC CONCERN TO PROPER PERFORMANCE OF THE WORK AS SPECIFIED AND/OR CALLED FOR ON THE DRAWINGS. IT IS THE SUBCONTRACTOR'S RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDING WITH FURTHER WORK THAT WOULD MAKE PARTS OF WORK INACCESSIBLE OR DIFFICULT TO INSPECT.

1.3 SITE MAINTENANCE AND PROTECTION:

- PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF WORK UNTIL COMPLETION OF THE SUBCONTRACT.
- AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TREES, AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACILITIES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.

KEEP SITE FREE OF ALL PONDING WATER. PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH STATE DOT AND EPA REQUIREMENTS.

- PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES. WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST THEFT FROM PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE
- EXISTING UTILITIES: DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE ENGINEER, AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.

PROVIDE A MINIMUM 48-HOUR NOTICE TO THE ENGINEER AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY UTILITY

PART 2 - PRODUCTS

- 2.1 SUITABLE BACKFILL: ASTM D2321 (CLASS I, II, III, OR IVA) FREE FROM FROZEN LUMPS, REFUSE, STONES OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL
- NON-POROUS GRANULAR EMBANKMENT AND BACKFILL: ASTM D2321 (CLASS III, IVA OR IVB) COARSE AGGREGATE. FREE FROM FROZEN UMPS, REFUSE, STONES, OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.3 POROUS GRANULAR EMBANKMENT AND BACKFILL: ASTM D2321 (CLASS IA, IB, OR II) COARSE AGGREGATE FREE FROM FROZEN LUMPS, REFUSE, STONES, OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.4 SELECT STRUCTURAL FILL: GRANULAR FILL MATERIAL MEETING THE REQUIREMENTS OF ASTM E850-95, FOR USE AROUND AND UNDER STRUCTURES WHERE STRUCTURAL FILL MATERIAL ARE REQUIRED
- GRANULAR BEDDING AND TRENCH BACKFILL: WELL-GRADED SAND MEETING THE GRADATION REQUIREMENTS OF ASTM D2487 (SE OR SW-SM).
- COARSE AGGREGATE FOR ACCESS ROAD SUB BASE COURSE SHALL CONFORM TO ASTM D2940.
- UNSUITABLE MATERIAL: AND MODERATELY PLASTIC SILTS AND CLAYS (LL>45), MATERIAL CONTAINING REFUSE, FROZEN LUMPS, DEMOLISHED BITUMINOUS MATERIAL, VEGETATIVE MATTER, WOOD, STONES IN EXCESS OF 3 INCHES IN ANY DIMENSION, AND DEBRIS AS DETERMINED BY THE CONSTRUCTION MANAGER. TYPICAL THESE WILL BE SOILS CLASSIFIED BY ASTM AS PT, MH, CH, OH, ML, AND OL.

GEOTEXTILE FABRIC: MIRAFI 500X OR APPROVED EQUAL

PLASTIC MARKING TAPE: SHALL BE ACID AND ALKALI RESISTANT POLYETHYLENE FILM SPECIFICALLY MANUFACTURED FOR MARKING AND LOCATING UNDERGROUND UTILITIES, 6 INCHES WIDE WITH A MINIMUM THICKNESS OF 0.004 INCH. TAPE SHALL HAVE MINIMUM STRENGTH OF 1500 PSI IN BOTH DIRECTIONS AND MANUFACTURED WITH INTEGRAL CONDUCTORS, FOIL BACKING OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR WHEN BURIED UP TO 3 FEET DEEP. THE METALLIC CORE OF THE TAPE SHALL BE ENCASED IN A PROTECTIVE JACKET OR PROVIDED WITH OTHER MEANS TO PROTECT IT FROM CORROSION, TAPE COLOR SHALL BE RED FOR ELECTRIC UTILITIES AND ORANGE FOR TELECOMMUNICATION UTILITIES.

PART 2 - EXECUTION

- BEFORE STARTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH A CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE DRAINED AT ANY TIME
- BEFORE ALL SURVEY, LAYOUT, STAKING, AND MARKING, ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK,
- CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE, REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED.
- REMOVE THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE ORIGINAL GROUND SURFACE: ROOTS, STUMPS, AND OTHER DEBRIS, BRUSH, AND REFUSE EMBEDDED IN OR PROTRUDING THROUGH THE GROUND SURFACE, RAKE, DISK OR PLOW THE AREA TO A DEPTH OF NO LESS THAN 6 INCHES, AND REMOVE TO A DEPTH OF 12 INCHES ALL ROOTS AND OTHER DEBRIS THEREBY EXPOSED.
- REMOVE TOPSOIL MATERIAL COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL, AVOID MIXING TOPSOIL WITH SUBSOIL OR OTHER UNDESIRABLE MATERIALS.
- EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, FILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING, AND DEMOLITION WORK COMPLETELY WITH SUITABLE FILL.
- REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING WILL NOT BE PERMITTED.

- PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES INDICATED ON THE DRAWINGS AND TO ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE, UNDERGROUND STRUCTURE, OR OTHER ITEM NOT SHOWN THAT MIGHT INTERFERE WITH THE PROPOSED CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.
- SEPARATE AND STOCK PILE AL EXCAVATED MATERIALS SUITABLE FOR BACKFILL. ALL EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.

3.2 BACKFILL

AS SOON AS PRACTICAL, AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING EXPIRATION OF THE SPECIFIED MINIMUM CURING PERIOD FOR CAST-IN-PLACE CONCRETE, BACKFILL THE EXCAVATION WITH APPROVED MATERIAL TO RESTORE THE REQUIRED FINISHED GRADE

PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL BE REMOVED AND THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS, AND UNSUITABLE MATERIALS

BACKFILL BY PLACING AND COMPACTING SUITABLE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL WHEN REQUIRED IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 8-INCHES LOOSE THICKNESS AND COMPACTED. WHERE HAND OPERATED COMPACTORS ARE USED. THE AND COMPACIED. WHERE HAND OFERALLS SOME TO EXCEED 4 INCHES IN THE MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN THE SHALL BE PLACED IN LIFTS NOT TO EXCEED A SHALL BE PL LOOSE DEPTH AND COMPACTED.

- WHENEVER THE DENSITY TESTING INDICATES THAT THE CONTRACTOR HAS NOT OBTAINED THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED UNTIL THE SPECIFICATION REQUIREMENTS ARE MET UNLESS OTHERWISE AUTHORIZED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DISKING AND DRYING, ADDING WATER, OR INCREASING THE COMPACTIVE EFFORT TO MEET THE MINIMUM COMPACTION REQUIREMENTS.
- THOROUGHLY COMPACT EACH LAYER OF BACKFILL TO A MINIMUM 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

3.3 TRENCH EXCAVATION

UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE GENERAL CONTRACTOR, PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS.

EXTEND THE TRENCH WIDTH A MINIMUM OF 6 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT.

WHEN SOFT YIELDING, OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, BACKFILL AT THE REQUIRED TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION AND BACKFILL WITH GRANULAR BEDDING MATERIAL.

3.4 TRENCH BACKELLS

- PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE DRAWINGS AND THE UTILITY REQUIREMENTS.
- NOTIFY THE GENERAL CONTRACTOR 24 HOURS IN ADVANCE OF
- CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING, BACKFILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING.
- PLACE GRANULAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 6-INCH UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS, SOLIDLY RAM AND TAMP BACKFILL INTO SPACE AROUND
- PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE, OR UNBALANCED LOADING.
- ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 8-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.
- COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GREATER THAN THAT OF THE EXISTING UNDISTURBED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH BUT NO LESS THAN A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

3.5 FINISH GRADING:

- PERFORM ALL GRADING TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND SMOOTH, EVEN SURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE IMITS OF CONSTRUCTION, GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES.
- UTILIZE SATISFACTORY FILL MATERIAL RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR REPLACEMENT OF REMOVED UNSUITABLE MATERIALS.
- ACHIEVE FINISHED GRADE BY PLACING A MINIMUM OF 4 INCHES OF 1/2" -3/4" CRUSHED STONE ON TOP SOIL STABILIZER FABRIC. REPAIR ALL ACCESS ROADS AND SURROUNDING AREAS USED DURING THE

3.7 ASPHALT PAVING ROAD:

DIVISION 600 - KDOT FLEXIBLE PAVEMENT. (UPDATE PER LOCAL DOT)

CORSE OF THIS WORK TO THEIR ORIGINAL CONDITION.

SECTION 403 - MODOT ASPHALT CONCRETE PAVEMENT.

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199 TOWN FARM ROAD FARMINGTON, CT 06032

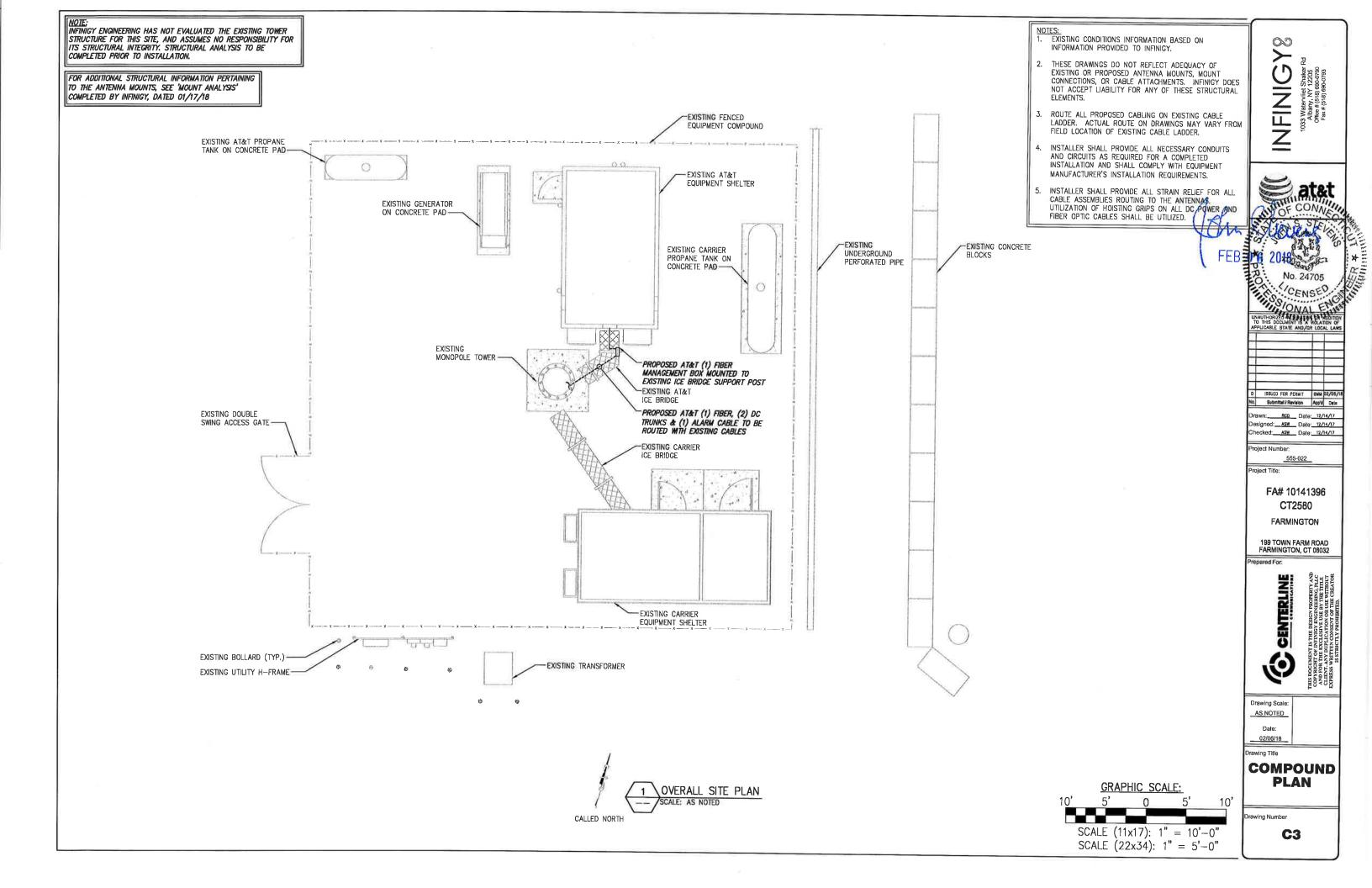


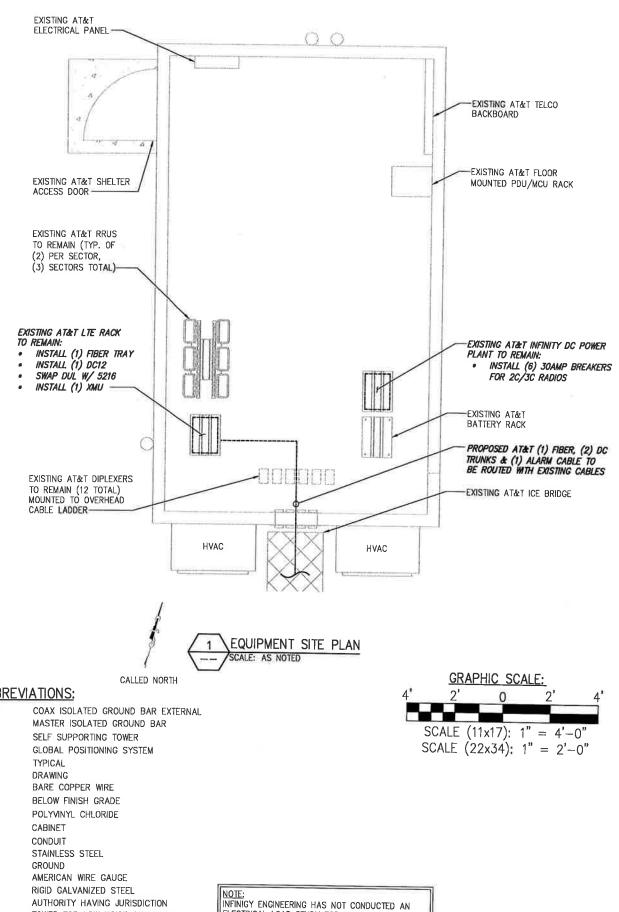
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> **GENERAL** NOTES

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ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.), AND APPLICABLE LOCAL CODES.

GROUNDING SHALL COMPLY WITH THE ARTICLE 250 OF NATIONAL ELECTRICAL CODE.

ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED.

ALL WIRES SHALL BE AWG MIN #12 THHN COPPER UNLESS NOTED.
CONDUCTORS SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT UNLESS NOTED

6. LABEL AT&T SERVICE DISCONNECTS WITH SWITCH AND PANEL WITH ENGRAVED LAMACOID LABELS, LETTERS 1" IN HEIGHT,

ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 8" RADIUS.

B. ENGAGE AN INDEPENDENT TESTING FIRM TO TEST AND VERIFY THAT RESISTANCE DOES NOT EXCEED 5 OHMS TO GROUND. TEST GROUND RING RESISTANCE PRIOR TO MAKING FINAL GROUND CONNECTIONS TO INFRASTRUCTURE AND EQUIPMENT.
GROUNDING AND OTHER OPERATIONAL TESTING SHALL BE WITNESSED BY AT&TS REPRESENTATIVE.

9. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE REQUIRED SO THAT CONDUIT

BENDS DO NOT EXCEED 360 DEGREES.

10. OBTAIN PERMITS AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO AT&T REPRESENTATIVE

11. SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRICAL WORK REQUIREDS SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRONIC WORK REQUIRED TO JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.

12. REDLINED AS-BUILTS ARE TO BE DELIVERED TO AN AT&T REPRESENTATIVE 13. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING

14. FURNISH AND INSTALL THE COMPLETE ELECTRICAL SERVICE, TELCO CONDUIT, AND THE COMPLETE GROUNDING SYSTEM.

15. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER AND SHALL BE SUBJECT TO APPROVAL BY AN AT&T REPRESENTATIVE.

16. CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.

17. PROJECT ADJACENT STRUCTURES AND FINISHES FROM DAMAGE, REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.

18. REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY, REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE, DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY

19. UPON COMPLETION OF WORK, THE SITE SHALL BE CLEAN AND FREE OF DUST AND **FINGERPRINTS**

20. PRIOR TO ANY TRENCHING, CONTACT LOCAL UTILITY TO VERIFY LOCATION OF ANY EXISTING BURIED SERVICE CONDUITS.

21. DOCUMENT GROUND RING INSTALLATION AND CONNECTIONS TO IT WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PRESENT PHOTO ARCHIVE A SITE "PUNCH LIST" WALK TO AT&T'S REPRESENTATIVE.

22. ALL ABOVE GRADE CONDUIT TO BE RIGID METALLIC

GROUNDING NOTES:

ALL DOWN CONDUCTORS AND GROUND RING AND CONDUCTOR SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNO. ALL CONNECTIONS TO GROUND RING SHALL BE EXOTHERMICALLY WELDED. CONDUCTOR SHALL BE A MINIMUM DEPTH BELOW GRADE OF 30 INCHES OR TO THE LEDGE. MINIMUM BEND RADIUS SHALL BE 8 INCHES. CONDUCTOR SHALL BE AT LEAST 24 INCHES FROM ANY FOUNDATION, UNO.

2. WHERE MECHANICAL CONDUCTOR CONNECTIONS ARE SPECIFIED, BOLTED, COMPRESSION-TYPE CLAMPS OR SPLIT-BOLT TYPE CONNECTORS SHALL BE USED.

3. GRIND OFF GALVANIZING IN AFFECTED AREA. EXOTHERMICALLY WELD #2 CONDUCTOR AT 6 INCHES ABOVE GRADE R FOUNDATION, WHICHEVER IS HIGHER. COLD-GALY AFTER. EXOTHERMICALLY WELD OTHER END TO THE GROUND.

4. GROUND CONDUCTORS ON EXTERIOR WALL OF SHELTER SHALL BE ENCASED IN 3/4" PVC CONDUIT TO GRADE. MOUNT PVC WITH GALVANIZED "C" CLAMPS. SEAL TOP

5. FOLLOWING COMPLETION OF WORK, CONDUCT GROUND TEST. SUBMIT WRITTEN TEST TO CONSTRUCTION MANAGER AND PROJECT MANAGER. 6. ALL GROUNDING WORK SHALL COMPLY WITH CARRIER(S) STANDARDS.

7. GROUNDING REQUIREMENTS SHOWN ON THIS PLAN ARE FOR ITEMS THAT ARE LOCATED NEAR GRADE LEVEL AND THAT NEED TO BE TIED TO THE BELOW GRADE

8. UNLESS NOTED OTHERWISE, ALL GROUNDING SHALL BE IN ACCORDANCE WITH AT&T'S SSEQ DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES", AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING". ALL GROUNDING SHALL ALSO COMPLY WITH ALL STATE AND LOCAL CODES, AND THE NATIONAL ELECTRICAL CODE (NEC).

9. UNLESS NOTED OTHERWISE, ALL GROUNDING CONNECTIONS SHALL BE MADE BY AN EXOTHERMIC WELD.

10.RESISTANCE TO EARTH TESTING IS REQUIRED PER AT&T STANDARDS ON ALL NEW

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> FA# 10141396 CT2580

FARMINGTON

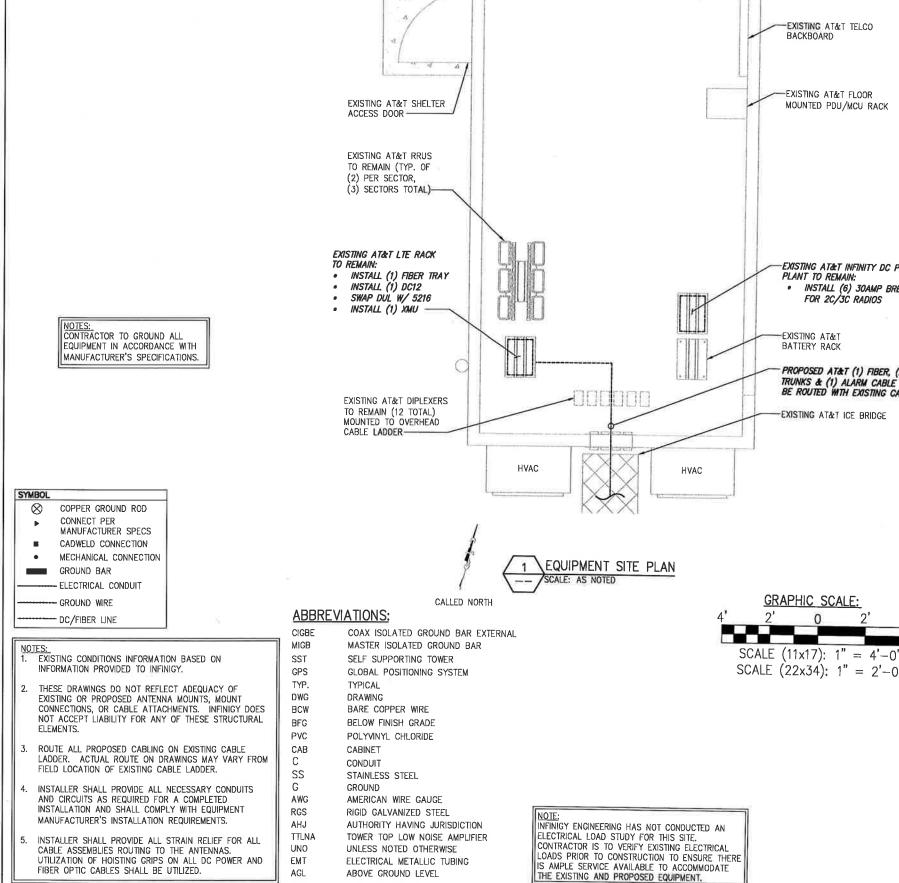
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EQUIPMENT SITE PLAN



NOTE: INFINICY ENGINEERING HAS NOT EVALUATED THE EXISTING TOWER STRUCTURE FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY. STRUCTURAL ANALYSIS TO BE COMPLETED PRIOR TO INSTALLATION.

NOTE:
3' MINIMUM SEPARATION BETWEEN LTE ANTENNAS & 6' MINIMUM SEPARATION BETWEEN 700 BC & 700 DE.

NOTE: ANTENNA AND RADIOS ARE PAINTED TO MATCH

FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNTS, SEE 'MOUNT ANALYSIS' COMPLETED BY INFINIGY, DATED 01/17/18

PROPOSED AT&T PANEL ANTENNA, TO REPLACE EXISTING (TYP. OF (1) PER SECTOR, (3) SECTORS TOTAL) -PROPOSED RRUS 32 (WCS) MOUNTED BEHIND PROPOSED ANTENNA (TYP. OF (1) PER EXISTING AT&T PANEL ANTENNAS TO REMAIN (TYP. OF (2) PER SECTOR, (3) SECTORS TOTAL) SECTOR, (3) SECTORS TOTAL) PROPOSED RRUS 32 B2 (PCS) MOUNTED BEHIND PROPOSED ANTENNA (TYP. OF (1) PER EXISTING AT&T TMA UNIT, TO REMAIN (TYP. OF (1) PER SECTOR, (3) SECTORS TOTAL) SECTOR, (3) SECTOR'S TOTAL) PROPOSED DC6 SQUID (TYP. OF 1) EXISTING AT&T RRUS-11 TO EXISTING DC6 SQUID TO REMAIN (TYP. OF (1) PER REMAIN (TYP. OF 1) = SECTOR, (3) SECTORS TOTAL) PROPOSED ATAIT (1) FIBER, (2) DC TRUNKS & (1) ALARM CABLE TO BE ROUTED WITH EXISTING CABLES MONOPOLE TOWER

> **ELEVATION VIEW** NOT TO SCALE

GROUND LEVEL

- NOTES:

 1. EXISTING CONDITIONS INFORMATION BASED ON INFORMATION PROVIDED TO INFINIGY.
- 2. THESE DRAWINGS DO NOT REFLECT ADEQUACY OF EXISTING OR PROPOSED ANTENNA MOUNTS, MOUNT CONNECTIONS, OR CABLE ATTACHMENTS, INFINIGY DOES NOT ACCEPT LIABILITY FOR ANY OF THESE STRUCTURAL
- ROUTE ALL PROPOSED CABLING ON EXISTING CABLE LADDER. ACTUAL ROUTE ON DRAWINGS MAY VARY FROM FIELD LOCATION OF EXISTING CABLE LADDER.
- INSTALLER SHALL PROVIDE ALL NECESSARY CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETED INSTALLATION AND SHALL COMPLY WITH EQUIPMENT MANUFACTURER'S INSTALLATION REQUIREMENTS.
- INSTALLER SHALL PROVIDE ALL STRAIN RELIEF FOR ALL CABLE ASSEMBLIES ROUTING TO THE ANTENNAS.
 UTILIZATION OF HOISTING GRIPS ON ALL DC POWER
 FIBER OPTIC CABLES SHALL BE UTILIZED.

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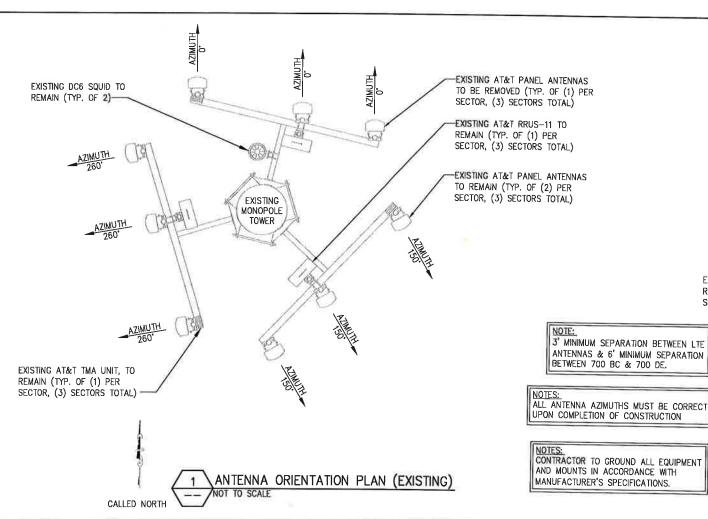


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ELEVATION VIEW



PROPOSED AT&T PANEL ANTENNA, TO REPLACE EXISTING (TYP. OF (1) PER SECTOR, (3) SECTORS TOTAL) PROPOSED RRUS 32 (WCS) MOUNTED BEHIND PROPOSED PROPOSED DC6 SQUID (TYP. OF 1)-ANTENNA (TYP. OF (1) PER SECTOR, (3) SECTORS TOTAL) EXISTING DC6 SQUID TO REMAIN (TYP. OF 1)--EXISTING AT&T RRUS-11 TO REMAIN (TYP. OF (1) PER SECTOR, (3) SECTORS TOTAL) EXISTING MONOPOLE TOWER EXISTING AT&T TMA UNIT, TO REMAIN (TYP. OF (1) PER SECTOR, (3) SECTORS TOTAL) -PROPOSED RRUS 32 B2 (PCS) MOUNTED BEHIND PROPOSED ANTENNA (TYP. OF (1) PER SECTOR, (3) SECTORS TOTAL)

> ANTENNA ORIENTATION PLAN (PROPOSED) CALLED NORTH

EXISTING AND PROPOSED ANTENNA, TMA AND DIPLEXER MODEL NUMBERS EXISTING/ ANTENNA 🖳 SECTOR **ANTENNA** AZIMUTI TMA/DIPLEXER CABLE PROPOSED CABLE HEIGHT LENGTH EXISTING UMTS 850/1900 SBNH-1D6565C ±100' (E) (1) DTMABP7819V612A COAX EXISTING **EXISTING** LTE 700 SBNH-1D6565C 0. ±100' (E) (1) RRUS-11 FIBER EXISTING ALPHA (P) (1) RRUS 32 B2 PROPOSED LTE 1900/WCS TPA-65R-LCUUUU-H8 ±125'* SPARE ±100' (P) (1) RRUS-32 **EXISTING** UMTS 850/1900 SBNH-1D6565C ±100' 150* (E) (1) DTMABP7819V612A COAX EXISTING **EXISTING** LTE 700 SBNH-1D6565C ±100' 150° (E) (1) RRUS-11 FIBER EXISTING (P) (1) RRUS 32 B2 FIBER ±125'*
FEEDER SPARE **PROPOSED** LTE 1900/WCS TPA-65R-LCUUUU-H8 ±100' 150° (P) (1) RRUS-32 (E) (1) DTMABP7819V612A EXISTING UMTS 850/1900 SBNH-1D6565C ±100' 260° COAX EXISTING EXISTING LTE 700 SBNH-1D6565C 260* ±100' (E) (1) RRUS-11 **FIBER** EXISTING GAMMA (P) (1) RRUS 32 B2

LTE 1900/WCS

QS66512-2

±100'

260

PROPOSED

FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNTS, SEE 'MOUNT ANALYSIS' COMPLETED BY INFINIGY, DATED 01/17/18

		PROPOSED RRI	J AND CABLE SCH	IEDULE .	
SECTOR	FIBER TRUNK	SINGLE FIBER	DC 3-PAIR	DC 1-PAIR	RRU'S
ALPHA		(4) 5 METER		(4) #8 AWG, 15'	(E) (1) RRUS-11 (P) (1) RRUS 32 (WCS) (P) (1) RRUS-32 B2
ВЕТА	(1) 18 PAIR, ±125'	(4) 5 METER	(2) #8 AWG, ±125'	(4) #8 AWG, 15'	(E) (1) RRUS-11 (P) (1) RRUS 32 (WCS) (P) (1) RRUS-32 B2
GAMMA		(4) 5 METER		(4) #8 AWG, 15'	(E) (1) RRUS-11 (P) (1) RRUS 32 (WCS) (P) (1) RRUS-32 B2

* CABLE LENGTH FROM RFDS, CONTRACTOR TO VERIFY PRIOR TO ORDERING

FIBER +125'*
FEEDER SPARE

(P) (1) RRUS-32

RF EQUIPMENT SCHEDULE

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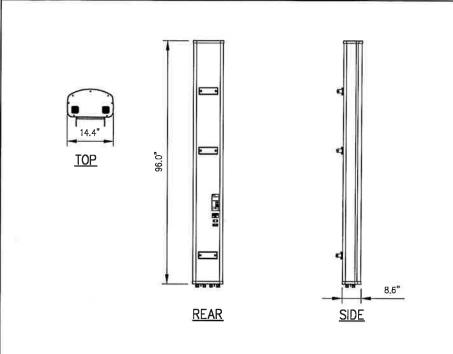
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CCI MODEL NO .:

TPA-65R-LCUUUU-H8

RADOME MATERIAL: RADOME COLOR: DIMENSIONS, HxWxD: WEIGHT, W/ PRE-MOUNTED BRACKETS:

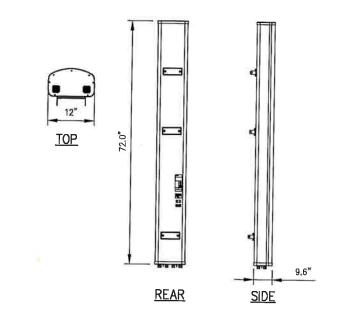
CONNECTOR:

FIBERGLASS, UV RESISTANT LIGHT GRAY 96.0"x14.4"x8.6"

94.2 LBS

(6) 7-16 DIN FEMALE

ANTENNA DETAIL NOT TO SCALE



QUINTEL MODEL NO .:

QS66512-2

RADOME MATERIAL: RADOME COLOR: DIMENSIONS, HxWxD: WEIGHT, W/ PRE-MOUNTED BRACKETS:

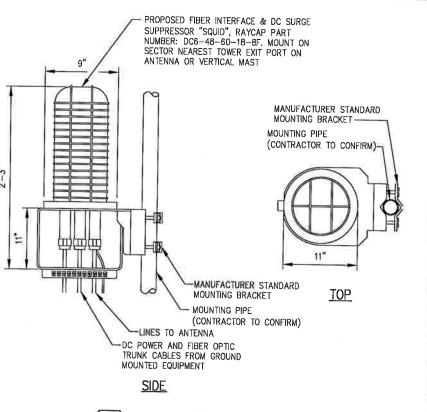
CONNECTOR:

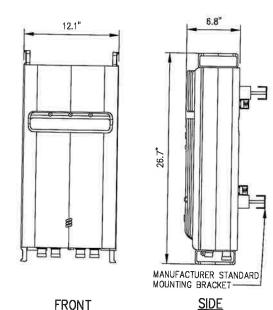
FIBERGLASS, UV RESISTANT LIGHT GRAY 72.0"x12.0"x9.6"

111 LBS

(6) 7-16 DIN FEMALE







FRONT

RRUS-32 SPECIFICATIONS

HxWxD, (INCHES): 26.7"x12.1"x6.8" WEIGHT (LBS): 50.8 COLOR: GRAY

ERICSSON RRUS-32 DETAIL NOT TO SCALE

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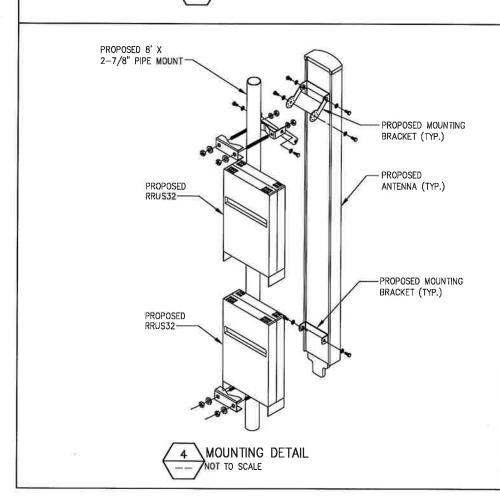
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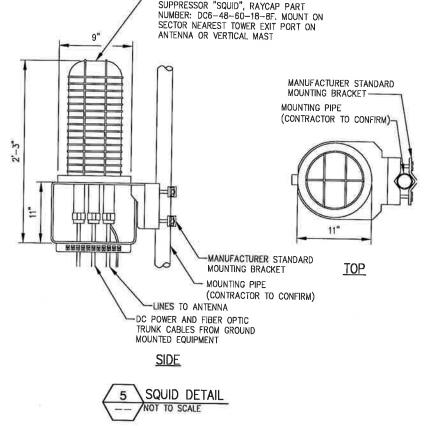
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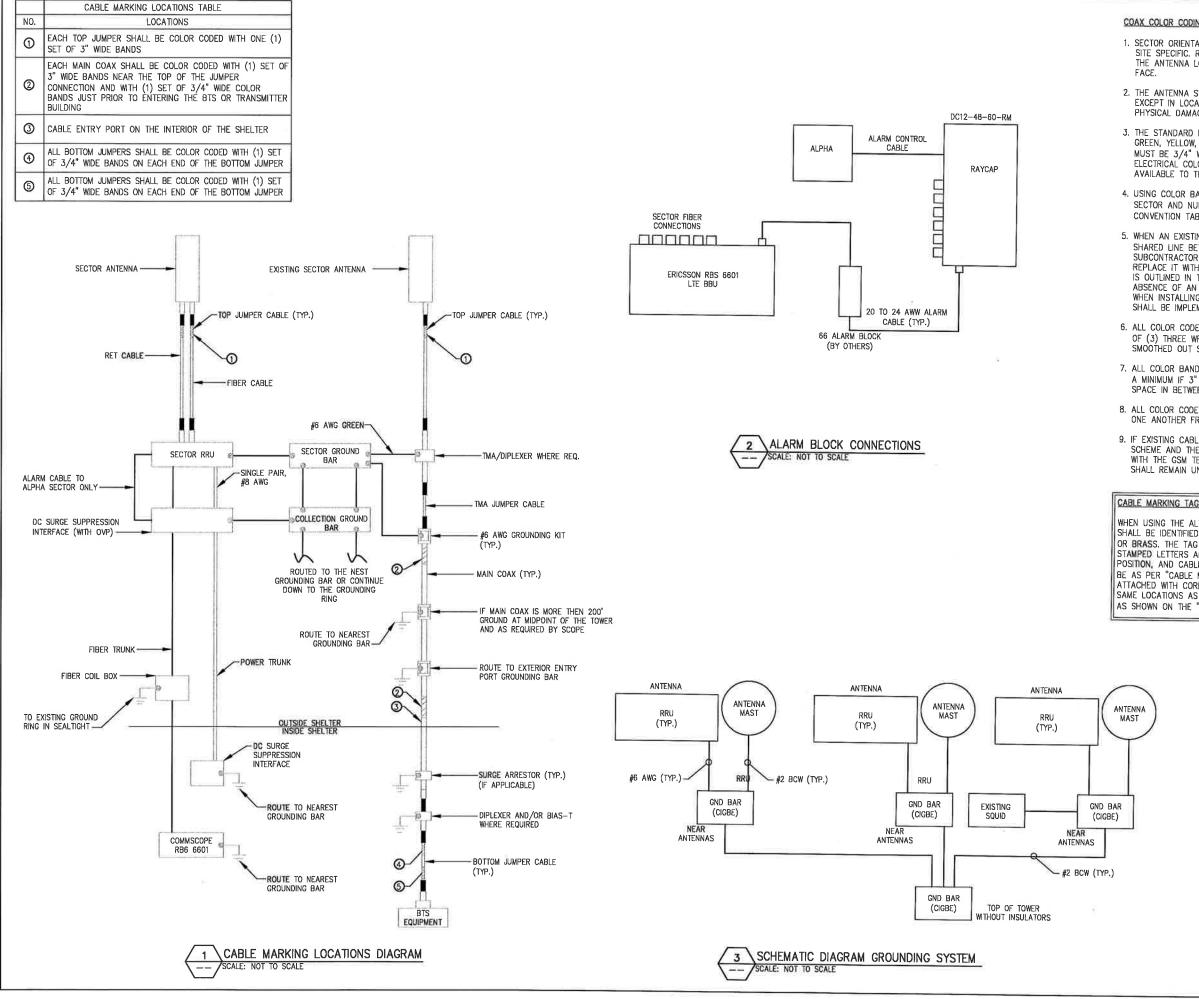
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COAX COLOR CODING & IDENTIFICATION NOTES:

- 1. SECTOR ORIENTATION/ AZIMUTH WILL VARY FROM REGION AND IS SITE SPECIFIC. REFER TO RF REPORT FOR EACH SITE TO DETERMINE THE ANTENNA LOCATION AND FUNCTION OF EACH TOWER SECTOR
- 2. THE ANTENNA SYSTEM COAX SHALL BE LABELED WITH VINYL TAPE EXCEPT IN LOCATIONS WHERE ENVIRONMENTAL CONDITIONS CAUSE PHYSICAL DAMAGE, THEN PHYSICAL TAGS ARE PREFERRED.
- 3. THE STANDARD IS BASED ON EIGHT COLORED TAPES- RED. BLUE. GREEN, YELLOW, ORANGE, BROWN, WHITE AND VIOLET, THESE TAPES MUST BE 3/4" WIDE AND UV RESISTANT SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE AND SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR SUBCONTRACTOR ON SITE.
- 4. USING COLOR BANDS ON THE CABLES MARK ALL RF CABLE BY SECTOR AND NUMBER AS SHOWN ON "CABLE MARKING COLOR CONVENTION TABLE".
- 5. WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO SHARED LINE BETWEEN GSM/3G TDMA IS ENCOUNTERED. SUBCONTRACTOR SHALL REMOVE THE COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING AND TAGGING STANDARD THAT IS OUTLINED IN THE CURRENT VERSION OF THE STANDARD IN THE ABSENCE OF AN EXISTING COLOR CODING AND TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY.
- 6. ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE A MINIMUM OF (3) THREE WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID ANY UNRAVELING.
- 7. ALL COLOR BANDS INSTALLED AT THE TOP OF THE TOWER SHALL BE A MINIMUM IF 3" WIDE, AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE IN BETWEEN EACH COLOR.
- 8. ALL COLOR CODES SHALL BE INSTALLED AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE TO SIDE.
- 9. IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE GSM TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED.

CABLE MARKING TAGS:

WHEN USING THE ALTERNATIVE LABELING METHOD, EACH RF CABLE SHALL BE IDENTIFIED WITH A METAL ID TAG MADE OF STAINLESS STEEL OR BRASS. THE TAG SHALL BE 1' 1-1/2" IN DIAMETER WITH 14" STAMPED LETTERS AND NUMBERS INDICATING THE SECTOR, ANTENNA POSITION, AND CABLE NUMBER. THE ID MARKING LOCATIONS SHOULD BE AS PER "CABLE MARKING LOCATIONS TABLE". THE TAG SHOULD BE ATTACHED WITH CORROSION PROOF WIRE AROUND THE CABLE AT THE SAME LOCATIONS AS DEFINED ABOVE. THE TAG SHOULD BE LABELED AS SHOWN ON THE "GSM AND UMTS LINE TAG" DETAIL.

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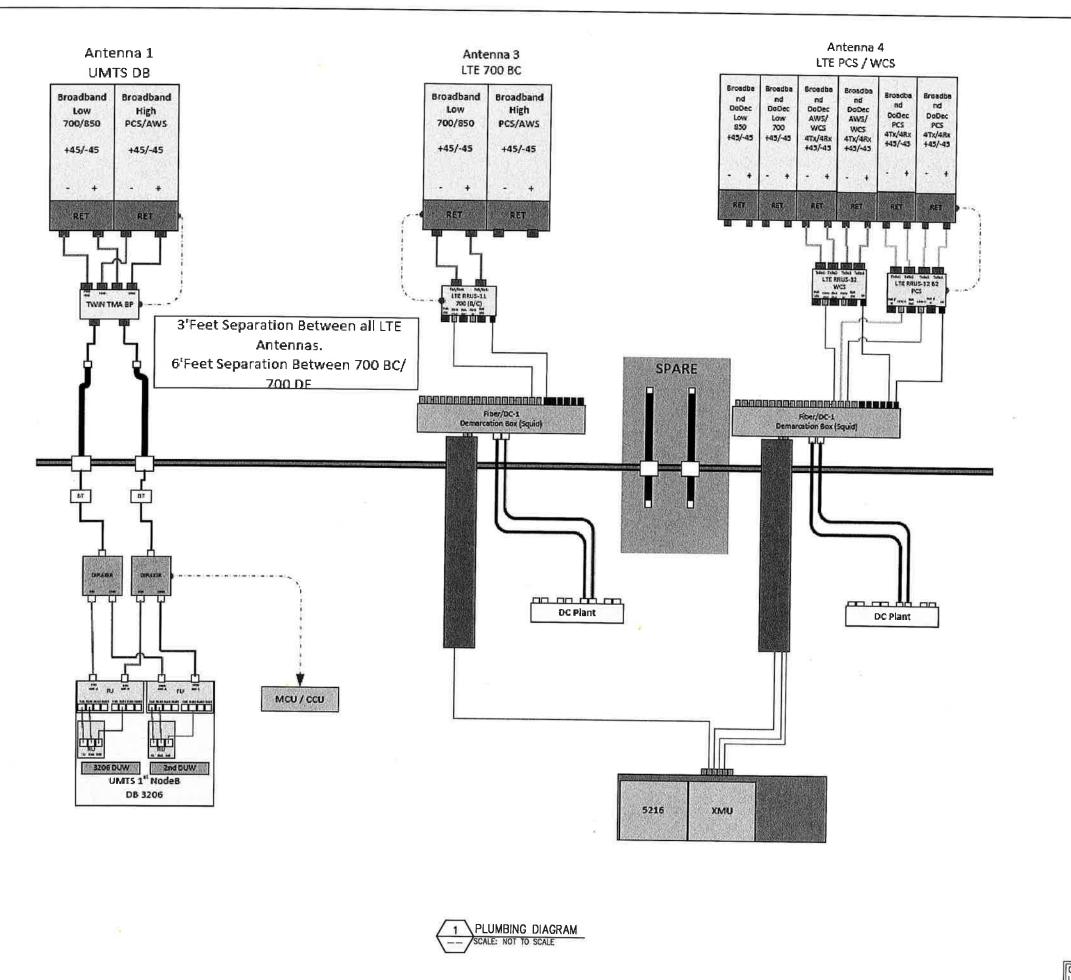
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PLUMBING DIAGRAM

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CONTRACTOR TO REFER TO LATEST RFDS PROVIDED BY AT&T FOR FINAL CONFIGURATION.